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CHILDREN'S ATTITUDES TOWARD
THE PLAYING OF GAMES
AND RULE CHANGES

Ⓒ

BY

DAVID ARNOLD CARROLL

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Children's Attitudes Toward the Playing of Games and Rule Changes" submitted by David Arnold Carroll in partial fulfillment of the requirements for the degree of Master of Arts.

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ABSTRACT

The purpose of this study was to conduct an exploratory examination of the attitudes of grade six children toward the playing of games, and toward rule changes that were made by the teacher or the children in these games.

In order to conduct the study several instruments were developed: two Likert-type attitude inventories were constructed, the first dealing with children's attitudes toward the playing of games, and the second with children's attitudes toward the playing of games and rule changes. An open-ended interview schedule was compiled to supplement the attitude inventories.

The sample consisted of 81 children from three grade six classes. Two classes from one school comprised the experimental groups and one class from another school was used as the control group.

Prior to the treatment period the three classes were administered the "attitude toward the playing of games" inventory. For 12 consecutive lessons the control class participated in two traditional games and the experimental classes participated in two modified games where the teacher or the children made rule alterations. After the treatment period concluded the control class was readministered the "attitude toward the playing of games" inventory and the experimental classes received the "attitude toward the playing of games and rule changes" inventory. Interviews were also conducted with

12 children from the experimental classes.

The pretreatment inventory data were subjected to alpha reliability procedures to help determine whether specific inventory statements could be grouped into a physical, social or emotional category. A similar procedure was used for the experimental posttreatment inventory data with an additional fourth category, intellectual statements, included. Only those categories where the alpha coefficient reached .50 were accepted. A two-way analysis of variance was used to measure the Treatment Groups x Sex with repeated measures for the accepted pre and posttreatment categories pertaining to the playing of games. The Newman-Keuls procedure was utilized to compare mean differences between the three groups. The t-test method of analysis was used to examine differences between the mean scores of the experimental children on accepted experimental posttreatment categories. In all cases the level of significance was chosen at 5 percent.

The findings indicated that the physical and social categories could be used to analyze the children's attitudes toward the playing of games. A significant sex difference was found regarding the social category with the girls indicating a more positive attitude toward the social aspects of playing games. Participation in the modified games did not change the attitudes of the experimental children toward the physical or social aspects of playing games. The physical, social and intellectual categories could be used to analyse the experimental children's attitudes toward the changing of game

rules. There was a significant difference between the two experimental classes regarding the social aspects of changing rules.

The majority of the interviewed experimental children indicated that they like playing modified games where rules could be changed, and their attitudes toward games had been favourably altered as a result of playing the modified games.

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TABLE OF CONTENTS

CHAPTER		PAGE
I	STATEMENT OF THE PROBLEM	1
	Introduction	1
	The Problem	5
	Sub Problems	5
	Importance of the Study	5
	General Statement of Purpose	8
	Delimitations and Limitations	9
	Delimitations	9
	Limitations	10
	Assumptions	11
	Definition of Terms	11
II	REVIEW OF THE LITERATURE	13
	Introduction	13
	Characteristics of Upper Elementary School Children Related to the Playing of Games and Games Teaching	13
	Physical Characteristics	14
	Psychosocial Characteristics	17
	Prominent Theories Related to Children's Moral Development and Conception of Rules.	22
	Games for Upper Elementary School Children	29
	Dysfunctional Aspects of Upper Elementary Children's Games	30
	The Content and Structure of Games and Games Teaching for Upper Elementary Children	35

CHAPTER PAGE

Attitude Theory and Measurement 42
Children's Attitudes Toward Games 47
Summary 50

III METHODS AND PROCEDURES 52
Introduction 52
Development of Attitude Inventories ... 52
Development of Interview 56
Subjects and Setting 57
The Modified Game Structures 58
Procedure 58
  Pretreatment Procedure 58
  The Control Condition 59
  The Experimental Conditions 59
    Experimental Class One 59
    Experimental Class Two 60
  Posttreatment Procedure 61
Treatment of the Data 62

IV RESULTS AND DISCUSSION 65
Introduction 65
Pre and Posttreatment Results of the Children's Attitudes Toward the Playing of Games 65
  Results of the Alpha Reliability Tests Conducted on the Pretreatment Attitude Responses 66
    Summary 70

CHAPTER PAGE

The Two-Way Analysis of Variance with Repeated Measures and the Change in Attitudes that Occurred between the Pre and Postreatment Periods 70

Posttreatment Results of the Experimental Children's Attitudes Toward the Changing of Game Rules 75

Results of the Alpha Reliability Tests Conducted on the Postreatment Rule Changing Attitude Responses 75

Summary 82

The Experimental Classes' Attitudes Toward the Changing of Game Rules 84

Excerpts from the Interviews 84

Discussion of the Interview Responses ... 93

General Discussion of the Results 95

V SUMMARY AND CONCLUSIONS 101

Summary 101

Conclusions 105

Recommendations for Further Research 108

BIBLIOGRAPHY 110

APPENDIX A. REQUEST MADE TO JUDGES AND THE ORIGINAL STATEMENTS FROM WHICH THE FINAL ATTITUDE INVENTORIES WERE DEVELOPED 123

APPENDIX B. PRELIMINARY INVENTORIES (RELIABILITY TEST INVENTORIES) AND EXPERIMENTAL CLASSES' POSTTREATMENT INVENTORY 129

APPENDIX C. GUIDE TO THE SCHEDULE AND INTERVIEW SCHEDULE 140

APPENDIX D. RULE GUIDELINES PERTAINING TO THE MODIFIED GAME STRUCTURES 144

APPENDIX E. GENERAL INFORMATION QUESTIONNAIRES 165

PAGE

APPENDIX F. PRE AND POSTTREATMENT RAW DATA AND ADDITIONAL DATA PERTAINING TO THE CHILDREN'S PREVIOUS GAMES PLAYING EXPERIENCE 168

LIST OF TABLES

Table	Description	Page
I	Statements in the Physical Category Pertaining to the Children's Attitudes Toward the Playing of Games	67
II	Statements in the Social Category Pertaining to the Children's Attitudes Toward the Playing of Games	69
III	Statements in the Emotional Category Pertaining to the Children's Attitudes Toward the Playing of Games	71
IV	Summary of the Two-Way Analysis of Variance of the Pre and Posttreatment Attitude Scores on the Physical Category Between the Three Treatment Groups	73
V	Summary of the Two-Way Analysis of Variance of the Pre and Posttreatment Attitude Scores on the Social Category Between the Three Treatment Groups	74
VI	Statements in the Physical Category Pertaining to the Children's Attitudes Toward the Changing of Game Rules	77
VII	Statements in the Social Category Pertaining to the Children's Attitudes Toward the Changing of Game Rules	79
VIII	Statements in the Emotional Category Pertaining to the Children's Attitudes Toward the Changing of Game Rules	81
IX	Statements in the Intellectual Category Pertaining to the Children's Attitudes Toward the Changing of Game Rules	83
X	The Experimental Groups' Responses to the Physical, Social and Intellectual Categories Pertaining to the Changing of Game Rules	85

Table Page

XI The Experimental Boys' and Girls' Responses to the Physical, Social and Intellectual Categories Pertaining to the Changing of Game Rules 86

XII Selected Interview Responses of Experimental Class One to the Question concerning the Games they Played during the Treatment Period 87

XIII Selected Interview Responses of Experimental Class Two to the Question concerning the Games they Played during the Treatment Period 88

XIV Selected Interview Responses of Experimental Class One to the Question concerning whether the Children or the Teacher should Change the Game Rules .. 89

XV Selected Interview Responses of Experimental Class Two to the Question concerning whether the Children or the Teacher should Change the Game Rules .. 90

XVI Selected Interview Responses of Experimental Class One to the Question concerning the Children's Attitudes Toward the Playing of Games as a Result of the Treatment Period 91

XVII Selected Interview Responses of Experimental Class Two to the Question concerning the Children's Attitudes Toward the Playing of Games as a Result of the Treatment Period 92

LIST OF FIGURES

Figure Page

1 Design of Experimental Conditions 61

CHAPTER I

STATEMENT OF THE PROBLEM

INTRODUCTION

> There are many things we value. Our concern is that kids win more than "ball games." We feel every kid can win in terms of having a funfilled experience, in terms of the individual improvements he makes. We want the different roads to victory left open to the child. (Orlick and Botterill, 1975, p. 157)

Society generally recognizes that positive games experiences can make a lasting positive contribution to the quality of life, and there is also a general consensus that every boy and girl should have the opportunity to participate and enjoy games activities (Cratty, 1975; Ellis, 1970, 1973; Glassford, 1973). The present boom towards novice participation in sports tends to make many coaches and educators believe that all is well. However, if we as educators are genuinely interested in the long-term development of the standard of play in games, we must also consider what benefits the various games programs in and out of school have for children (MacKay and Robbins, 1975).

In any activity, including games, if children feel they are failing, they will quickly become discouraged. Success and failure rely heavily upon the standards which are set for children. Therefore, to promote enjoyment and success, it appears that the goals or standards related to games activities must be appropriately structured. As Orlick and Botterill stated, "It is particularly important in the beginning when you are establishing sports attitudes and behavior that these goals be paramount" (1975, p. 9). Through appropriately organized games experiences a framework can be developed ensuring that children will pursue physical activity. This framework will also enhance the development of many specific motor skills (Ellis, 1973). Some researchers have speculated that many physical educators believe that their only function is to teach such activities as baseball, soccer, volleyball and gymnastics. However, their role is much more important; they are responsible for exposing each child to the joyful and exciting environment of physical activity. To do this they must be concerned with the total welfare and development of the child (Orlick and Botterill, 1975).

A major reason why so many children drop out of games activities or become disenchanted with physical education is because they are not having any fun. This lack of enjoyment is often the result of a child's level of ability and should never be a prerequisite for participation (Ellis, 1973; Robbins, 1973).

It is important to develop and administer games programs for children with a child's viewpoint in mind to ensure that the situations, expectations and challenges presented are both logical and realistic for them (Peake, 1974). When children are pressured to try to reach unattainable achievements in games they become increasingly uncertain, their confidence is shaken and they question the overall worth of the experience (Botterill, 1972; Orlick, 1972).

John Holt, in his book, How Children Fail indicated that children are afraid of failing, of disappointing the many anxious adults whose expectations hang over them like a cloud (1970). Conversely, Neill (1969) stated that many parents are extremely afraid of a child's failure and this leads them to deprive children of their right to play and enjoy games.

Many researchers and educators in recent years have expressed the need to modify children's games. Adults often tend to smile benignly when looking at Victorian pictures showing children of that era dressed as miniature adults (Robbins, 1975). However, if we take a closer look at many of our games programs we will probably see that we have not progressed very far from those times. Often our children's games are simply diluted versions of traditional adult games. Several studies have indicated that children's games need to be modified (Craig, 1975; MacKay, 1974; Peake, 1974).

Orlick and Botterill (1975) expressed the importance of making sure when modifications are made to equipment, facilities and rules, that they result in more enjoyment for children. It is also through well planned learning experiences that children become more knowledgeable and skillfull (Ellis, 1970); and hopefully they will gain a more positive attitude toward playing games.

In some elementary schools educational gymnastics and dance have been successfully introduced into the physical education curriculum. It appears that children who learn in the environment of the movement education approach are often encouraged to find a variety of ways to solve movement tasks by themselves (Staniford, 1978). According to Logsdon (1977) this approach provides a setting that can reward the ability of each child at his own level, thereby enhancing his self-esteem, versatility and individual inventiveness.

However, there has been a limited transfer of movement education concepts into most elementary school games programs (Barrett, 1977b). As a result, children have not had the opportunity to experiment with games related movement tasks (Ellis, 1970) or play modified games where changes are permitted to the games internal structure (Craig, 1975). Instead, the programs are rigidly structured around adult games and taught using traditional direct teaching methods (Orlick and Botterill, 1975).

Barrett (1977a) emphasized that successful experiences for children in playing games depend on the development of a program with diversification considered as a major focus. Moreover, children should be given the opportunity to express their attitudes toward the games they play (Craig, 1975). To accomplish these objectives many of the traditional ideas related to the teaching of games in elementary schools will have to be eliminated or drastically changed.

In conclusion, it appears that a major transition is needed in our elementary school games programs. More emphasis needs to be placed on children's attainment of success, versatility and enjoyment and not on "winning at all costs". Leonard (1977) felt that this transition would help children to gain a better understanding of the true feeling and freedom of movement.

THE PROBLEM

The main problem in this study was to examine the attitudes of grade six children toward the playing of games involving physical skills, and toward rule changes that were made by the teacher or the children in these games.

Sub Problems

1. To investigate whether any changes occurred in the attitudes of grade six children toward the playing of games as a result of playing modified games wherein rule changes were permitted.
2. To investigate whether there were any differences between grade six boys and girls with respect to their attitudes toward the playing of games, as well as toward rule changes that were made to modified game structures.

IMPORTANCE OF THE STUDY

As previously indicated, each year many children drop out of organized games programs. This is particularly true of those programs which have been organized on a community recreational basis (Orlick, 1974). Statistics released by the Canadian Amateur Hockey Association in 1973 indicated that there were 600,000 players registered with the organization for that year. Of that number, 53% were under the age of 12, 35% were between 12 and 15 and only 11% were over 15 years of age. Over a five year period only about 10% of the players registered were beyond their 15th birthday. Similar trends have also been reported to exist in other organized sports such as minor league softball and little league baseball (Orlick, 1974; Orlick and Botterill, 1975). Orlick and Botterill expressed their concern over this matter in the following statement:

> It is absurd that on one hand we feel that sports are good for kids and on the other hand we set up a system which eliminates poorer performers, girls, late maturing boys, kids who are not aggressive enough. (1975, p. 16)

If given the opportunity children will often express concern over the quality and structure of their games (Hardisty, 1969; Lenel, 1969; Opie and Opie, 1969). The Ministry of Education in England (1952) stated that children around the age of ten are very concerned with the playing of games and the desire of winning or being competitive is secondary. Furthermore, children show a special interest in acquiring and applying specific forms of motor skills and are keen on game variations. If given the opportunity they tend to develop strategies to elude failures by designing games whereby everyone is successful, for at least a major portion of the time (Morris, 1977). Smith (1973) felt that if learners are expected to experience success more frequently, they must be allowed more latitude and control over selecting tasks as they progress.

Allowing children more latitude does not lessen the responsibility of the teacher. The educator's challenge is to guide the children and help determine where each child's enthusiasm should lead (Dept. of Education, Government of Nova Scotia, 1975-76; Humphrey, 1965).

A project titled, New Perspectives for Elementary School Physical Education Programs in Canada, initiated by the Canadian Association for Health, Physical Education and Recreation (C.A.H.P.E.R) provided an opportunity for educators across Canada to identify the necessary criteria for good elementary school physical education programs. Several definitions of good programs were outlined; respondents indicated that children must be given the opportunity for exploration and discovery through selection and practice of skillfull motor tasks. Also, children must be allowed to develop their communicative skills through individual and group activities in cooperative and competitive environments. These cooperative or competitive situations must be suitable to the child's stage of social and motor skill development (C.A.H.-P.E.R, 1976). In a recent statement, Dr. Norman Watts, Director of the C.A.H.P.E.R. Elementary School Project indicated that, "We must develop quality programs for students and the benefit of these programs for students should be illustrated to other teachers and parents" (Wells, 1978, p. 11).

This study will constitute a needed attempt to examine the attitudes of grade six children toward playing games and rule changes made in modified games of physical skills. It is this researcher's contention, in agreement with many of the sources previously cited, that elementary school children should be given the opportunity to state their attitudes and opinions about the rules in the games they play. To emphasize this matter, Mauldon and Redfern (1969) indicated that more data needs to be gathered about the "ways children develop an awareness of the need for rules and the ability to formulate and respect them " (p. 14).

Wear (1951) made the following comments regarding the study of attitudes in physical education:

> Because of the importance of attitudes, and their changes, there should be a much wider use of objective evaluation methods. Instruments should be constructed for evaluating attitude toward certain specific types of activities ... and toward individual and team activities.
>
> Controlled experiments should be made concerning the effect upon attitudes of various types of programs, of various administrative measures and methods, and of various methods of instruction. (p. 123)

GENERAL STATEMENT OF PURPOSE

The general purpose of this study was to conduct exploratory research to grade six children's attitudes toward participation in games involving physical skills, and toward rule alterations made to modified game structures.

Mauldon and Redfern (1969) asserted that the physical, social and intellectual aspects of playing games and making rule changes, are important factors which strongly influence a child's attitudes toward games and rule modifications. They maintained that these factors:

> Begin to be integrated only at approximately the upper junior [elementary] stage at the earliest, and it would appear likely that prior to this each comes successively within the power of children to experience and develop. This gives us a clue to the nature of the aims and scope (as well as limitations) of games activity at . . . junior levels, and the type of provision and organization required to meet newly-defined objectives and needs in this area of Movement Education. (p. 15)

Furthermore, Layman (1968) insisted that as a component of attitude formation, emotion is also an important factor.

In order to make a thorough examination of the children's attitudes, the researcher designed two inventories. The first inventory was developed to scrutinize the children's attitudes toward the physical, social and emotional aspects of playing games. The second inventory was compiled to scrutinize the children's attitudes toward the physical, social, emotional and intellectual aspects of altering modified game rules.

The investigation also consisted of an interview with 12 children from the experimental classes. These interviews probed the attitudes and opinions of the children as an extension of the inventories.

DELIMITATIONS AND LIMITATIONS

Delimitations

1. The subjects used in this study were delimited to three classes of grade six children in the Edmonton area. The children had an age range of 10 to 12 years.

2. There were two basic types of game structures utilized for the modified games, a goal game structure and a court game structure.

3. The treatment period for the study consisted of 12 classes; this included six classes for each modified game situation.

Limitations

1. In an investigative study of this nature it is not possible to control all variables which could affect the results. However, every effort was made to control variables that the researcher construed to be crucial. These included: the frequency and duration of the activity sessions; the expressed attitude of the researcher toward the playing of games and rule changes in children's modified games; and the procedure utilized by the researcher in administering the attitude inventories and interviews. Another fundamental concern was that some children's participation in community or school sports activities could be a major factor influencing their attitudes. For this reason the children were questioned about their participation in these activities.

2. The study makes no claim toward the identification of all the important factors encompassing the attitudes of grade six children toward playing games and rule changes in modified games.

3. The children in the experimental group attended one school in the Edmonton Public School System; therefore, the

results will only be generalizable in a limited way.

4. Individual subjects may not have been able to state their attitudes toward the playing of games or rule changes in the precise manner they might have preferred because the study was restricted to forced choice answers.

5. It is expected that individual interpretation of items may have varied somewhat among subjects and have thus affected the results to some degree.

ASSUMPTIONS

1. It is assumed that grade six children have definite views concerning the playing of games and rule changes in modified games and that these attitudes are measurable.

2. It is assumed that there is a definite difference between the responses "strongly agree" and "agree" and between "strongly disagree" and "disagree".

3. It is assumed that any game children play may affect their attitudes toward playing games and changing the rules of a game; therefore, this investigation used two game structures rather than one.

DEFINITION OF TERMS

For the purpose of this study the following definitions were used.

Attitude: A mental state of readiness, organized through experience exerting an influence upon an individual's responses toward the playing of games and rules changes (Allport, 1967). For the purpose of this investigation attitude and opinion will be viewed as synonymous.

Court Game Structure: A specific type of game wherein one or more players are involved in projecting or directing an object into a playing area where it is impossible for opposing players to return; this action is undertaken for the purpose of scoring points.

Goal Game Structure: A specific type of game wherein teams of two or more players use their skills of passing, running and shooting to move an object toward a goal or a goal-line for the purpose of scoring points.

Modified Game: A game designed by either adults or children, where the procedure and rules are selected, adjusted and/or developed to suit the skill level, age and interests of children, and the equipment and space available.

Rule: An established regulation of a game which controls one or all of the following: (1) the conduct of players, (2) the procedures utilized and (3) the usage of equipment.

CHAPTER II

REVIEW OF THE LITERATURE

INTRODUCTION

The review of the literature has been broadly divided into five main areas: the first section dealing with characteristics of upper elementary school children related to the playing of games and games teaching, the second section with the prominent theories related to children's moral development and conception of rules, the third with games for upper elementary school children, the fourth with attitude theory and measurement, and the fifth with children's attitudes toward games.

CHARACTERISTICS OF UPPER ELEMENTARY SCHOOL CHILDREN RELATED TO THE PLAYING OF GAMES AND GAMES TEACHING

It is incumbent upon elementary school teachers to have an understanding of the growth and development processes as they relate to children. According to Humphrey (1974) and Loy, McPherson and Kenyon (1978) all physical education programs designed for children should emphasize a high level of physical and psychosocial well-being. Teachers must realize that all children are affected by heredity and environmental factors (Lenel, 1969); and although the characteristics of children may be studied in general terms, there is still a great deal of variability among individuals (Kruger and Kruger, 1978).

This portion of the review will attempt to examine the physical and psychosocial characteristics of children between the ages of 9 and 12 years. However, because of the relevance of moral development to this investigation, literature related directly to that aspect of psychosocial development will be discussed in a subsequent section.

Physical Characteristics

In recent years several well known researchers, Bailey (1971, 1973, 1975, 1976), Adams (1973) and Astrand (1976), have advocated the importance of physical activity for children. In 1971, Bailey stated: "We know that the impulse to physical activity in children is strong, and that such activity probably constitutes one of the great needs of life" (p. 1).

Upper elementary children enjoy moving and they possess a large reserve of physical energy. However, even though their endurance had improved since early childhood, these children cannot maintain a high intensity of physical exertion for long periods of time and they need opportunities to relax during games classes (Stanley, 1977).

Children between 9 and 12 years of age usually experience a steady increase in growth until the beginning of puberty (Adams, 1973). Their heart and lung size and capacity is close to proportionate to their body size (Astrand, 1976). At approximately the age of 11 or 12 girls begin their adolescent growth spurt and most boys usually follow about two years later (Gesell, Ilg and Ames, 1956). As Sherif and Rattray (1976) indicated:

> Girls, on the average, exhibit the beginning of a growth spurt that ordinarily levels off after pubescence. However, this prepubescent growth spurt also affects a minority of boys, approximately 17 percent of whom are pubescent or postpubescent by age 12. (p. 98)

Reaction time and speed of movement improves as a child matures (Hodgkins, 1963). Strength increases with maturation and there is very little difference between boys and girls when they enter the upper elementary level (Jones, 1949). However, Asmussen (1973) stated that, "boys tend to be stronger than girls of the same height at all ages" (p.71). Astrand (1976), a noted exercise physiologist, asserted that there are three major factors which increase muscle strength in aging children: (1) the increased size of the anatomical dimensions of muscles; (2) the effect of aging itself, one additional year of age augments a child's strength by 5 to 10% of the average strength for the same height group; and (3) the developing sexual maturity of the child, the male sexual hormones being of special significance for this occurrence.

Children in the 9 to 12 age group are usually very agile and possess good balance and flexibility (Singer, 1969). Their hand-eye and foot-eye coordination has generally improved since early childhood (Humphries and Shephard, 1959). They enjoy playing with small pieces of apparatus, and above all, they like to manoeuvre balls with or without implements (Barrett, 1977a). At this stage of development the child can learn new skills very rapidly and he can readily continue his refinement of body management skills while playing with games equipment (Dept. of Education, Government of Alberta, 1969).

In relation to children's hand-eye coordination Morris (1976a) conducted a study which examined how well elementary children could track, perceive and finally react to balls of various colours. As a result of his research Morris concluded:

> Youngsters' eyes and their visual perceptual process seem to undergo a series of developmental steps which are not necessarily age related. ...Those youngsters who possess less mature visual perceptual processes will not catch the fly ball, will not stop a grounder coming toward them with the possible result of a ball hitting the teeth, eyes, or other vital parts and causing injury. (1976b, p. 2)

In a study by Smoll and Denotter (1976), the researchers investigated age trends in children's performance of a ball-rolling accuracy task. They noted that there was a consistent increase in performance for children between 9 and 10, followed by a leveling off point for the older ages. Sex differences favoured the males and remained relatively constant over age.

Psychosocial Characteristics

Many researchers and educators have stressed the importance of psychosocial development in children 9 to 12 years old. According to Sherif and Rattray (1976), this aspect of the child's total development has a profound influence on how he perceives and plays games. The socialization process that a child undergoes is a major component of his psychosocial development (Loy and Ingham, 1973). As Clausen (1968) specified:

> Individual development may be viewed generically within a given society or it may be viewed in terms of the experiences and influences that lead to significant differences among persons (both social types and unique personalities). Viewed generically, the process of socialization includes the patternings of social learning transmitted through child care and training, the acquisition... of selfhood, the learning of social roles and moral norms. (p. 4)

Upper elementary children are conditioned by their cultual environments (Anderson, 1971), and in turn the various cultural influences exerting pressure on a child will affect his socialization (Brown, 1965). Several theorists of psychosocial development, particularly Sutton-Smith, have analyzed children's spontaneously organized games and traditional games as prototypes of the influences exerted by culture (Roberts and Sutton-Smith, 1962; Roberts, Sutton-Smith and Kendon, 1963; Sutton-Smith, 1968). Roberts, Sutton-Smith and Kendon (1963) stated that children who are in high achievement oriented societies will predominately play games involving physical skill.

A study done by Webb (1969) gives an excellent illustration of how cultural content is transmitted through play among upper elementary children. Webb noted that the transition from child's play to more highly organized sports involves increasing complexity and rationalization of game activities and increasing "professionalism of attitudes." By "professionalism" Webb meant "the substitution of 'skill' for 'fairness' as the paramount factor in play activity and the increasing importance of victory" (p. 164).

Upper elementary children are very much aware of what adults are doing, and become concerned about the "right" way of performing the physical skills in their games (Mauldon and Redfern, 1969). With regard to children's modeling behavior Stanley (1977) maintained, "The precise interest is determined by adult leagues in each community and by television and newspaper emphasis" (p. 8).

It appears that most of the research pertaining to children's psychosocial development and their participation in games activities revolves around cooperation and competition. Cooperation refers to the structure of an activity as well as the behavior exhibited by children (Sherif and Rattray, 1976). The complexity of the cooperative tasks observed in children's games increases with age, as developing intellectual and social abilities increasingly enable the child to perceive the roles of others and interrelate his actions with theirs (Piaget, 1965; Sutton-Smith, 1976).

> Competiton, in turn, consists of activities directed more or less consistently toward meeting a standard or achieving a goal in which performance by a person or by a group is compared and evaluated relative to that of selected other persons or groups. (Sherif and Rattray, 1976, p. 105)

The initial appearance of consistent cooperative or competitive behavior in children is ordinarily noted around the age of 4 or 5 (Cameron and Cameron, 1969), and progressively gets more complex. Piaget (1950, 1962) stated that this developmental trend reflects changes in intellectual functioning from an initial sensorimotor stage observed in infants, to the formal logic that characterizes adult cognition, which according to Piaget is usually achieved by the end of the child's 12th year. Lenel (1969) and Sutton-Smith (1971) have both confirmed that by the age of 11 or 12 most children are emotionally and socially able to handle many complex game situations involving competition and cooperation. Nelson and Kagan (1972) indicated that the competitive and cooperative behaviors of children are greatly influenced by their previous cultural experiences.

In concurrence with their more mature competitive and cooperative behavior, by the time children reach upper elementary school they are usually well into a cognitive development stage which Piaget (1950) called "Concrete Operational". At this point in their intellectual functioning children are still unable to deal with a complex series of alternative hypotheses, especially those which appear as abstractions (Flavell, 1963). However, they are gradually acquiring the ability to reverse their thought processes and think of previous actions (Lerner, 1976).

In their games the children become more adept at choosing appropriate and alternative movements and they can make decisions about the merit of different playing positions (Lenel, 1969). They experience an emergence of interest in various components of games, such as, appropriate systems of scoring and boundaries. These considerations must be understood and have general agreement or the component causing the problem will often be changed or adapted to improve the game (Mauldon and Redfern, 1969). Lenel (1969) asserted that this stage broadens the child's ability to develop strategies in games and with the appropriate stimulation, invent new ones; it "is the first step toward playing games in an adult way" (p. 28).

At the approximate age of 12 most children enter a "Formal Operational" stage (Piaget, 1950). Children in this stage are attaining the ability to think abstractly, handle many ideas in turn and construct hypotheses (Flavell, 1963). In terms of playing games they can develop playing strategies before a game even starts (Lenel, 1969).

The majority of upper elementary children are very concerned about how they are perceived by their peers. The stability of a child's social status with his peers is directly related to age, and it will increase as the child gets older (Helanko, 1963, 1969; Sherif and Sherif, 1964). Bossard and Boll (1966) stipulated that there are two types of peer groups in later childhood, "the clique" and "the gang". A clique may be defined as a small intimate group of similar social status who are in agreement regarding the ostracism of others from the group. A gang is a more formal group, less exclusive, more permanent in nature, and usually has an identifying subculture. As Bossard and Boll indicated, "The bond of solidarity is often strong, but membership is less exclusive and more capable of being earned than in the clique. Its objectives tend more in the direction of activity" (1966, p. 404).

Piaget (1965) regarded peer groups as the major agent in a child's psychosocial development toward self-regulation of behavior. This influence is so strong it will determine the games in which a child will participate (Anderson, 1971). Loy, McPherson and Kenyon (1978) have concluded the following:

> The research evidence overwhelmingly supports the importance of peer group support for involvement and success in sport. In most instances the degree of support or influence increases with age or until the individual ceases to be involved. In fact, the lack of a sport-oriented peer group often leads individuals to reduce their involvement in sport, especially at the participation level. (p. 237)

In terms of sex differences in upper elementary children's psychosocial development, Smoll and Denotter (1976) indicated that societal norms, expectations and a child's previous experience play a predominant role in the differentiation of performance levels between the sexes. Research has shown that boys receive more pressure early in life to behave "as little men" and renounce female play or actions (Hartley and Hardesty, 1964; Maccoby, 1966). According to a study done by Cratty (1967), there is less social stigma attached to the display of masculine behavior by girls than to the display of feminine behavior by boys.

PROMINENT THEORIES RELATED TO CHILDREN'S MORAL DEVELOPMENT AND CONCEPTION OF RULES

Physical educators have often voiced their concern over the "character development" aspect of games. Loy and Ingham (1973) claimed that if games teachers want to avoid difficulty in assessing the moral value of children's games, they must place more emphasis on research related to moral development. Lenel (1969) and Mauldon and Redfern (1969) indicated that it is particularly important for teachers to have a workable knowledge of children's conceptions of game rules.

As a result of research conducted in the 1930's, Piaget (1965), stated that the rules of many children's games constitute a social reality which is transmitted from one generation to the next. When children play games among themselves, their understanding and attitudes toward rules is affected by their level of cognitive development and adult intervention in past experiences.

> Before playing with his equals, the child is influenced by his parents. He is subjected from his cradle to a multiplicity of regulations, and even before language he becomes conscious of certain obligations. These circumstances even exercise... an undeniable influence upon the way in which the rules of games are elaborated.... We are therefore in the presence... of realities which, if

> not amongst the most elementary, should be classified amongst the most spontaneous and most instructive. (Piaget, 1965, p. 14)

Piaget found that children between the ages of 2 and 7 do not consider game rules to be binding (Lenel, 1969). At first, rules are seen as external entities (Maccoby, 1968); as the child progresses he begins to use examples of rules in an individualistic fashion and Piaget (1965) considered this an egocentric stage. The child imitates rules but does not understand their purpose, consequently, he changes them to conform to his interpretation of a game (Lefráncois, 1977).

Then comes a period where the child accepts the obligation to conform to the rules although he does not feel he had any part in their creation (Maccoby, 1968). Piaget (1965) stated that the child will verbalize the highest regard for the rules of a game. They are considered sacred and untouchable, made by adults or older children. However, the child is not always able to abide by the rules. He does not have the cognitive ability or motor skills to put rules into workable strategies, and he often becomes preoccupied with other aspects of a game. According to Piaget the child is now entering a cooperative stage, which will last until he is approximately 11 years old. The child's utilization of rules has become more thoughtful and less mechanical than it was in the previous period; he begins to view rules as not being absolute (Kay, 1970).

Most children around the age of 11 or 12 begin to conceptualize a rule as a stipulation subject to the mutual consent of their social group (Lenel, 1969). Piaget marked this phase in moral development as a "morality of reciprocity" Maccoby, 1968, p. 232). The child realizes that rules exist to make games possible and they can be altered (Lefrancois, 1977). Morality is considered to be fully internalized because the individual feels that he has some control over rules; they are supported by his agreement and not imposed by external authority (Maccoby, 1968).

Bobroff (1960) conducted a study similar to Piaget's (1965) on boys participating in a game of marbles. Data were gathered illustrating the boys' practice and consciousness of rules. The researcher asked his subjects several questions regarding such things as: the use of boundaries and penalties, succession of turns, and the consistency between verbalized rules and observed behavior. Bobroff concluded that his research generally supported the theory of moral development proposed by Piaget.

Gesell, Ilg and Ames (1956) strongly agreed with Piaget's stages of moral development, they considered each step in development only possible because of the preceding stage. The value of their evidence lies in the fact that the data they gathered were based on longitudinal studies of children (Kay, 1970). Several other researchers, Johnson (1962), Lerner (1937) and MacRae (1954), have also expressed their support of Piaget's developmental theory.

One early critic of Piaget's theory, Isaacs (1933), asserted that as a child's emotions and experience within his environment increases, his moral judgements toward rules change without any noticeable stage differentiation. According to Fleming (1966) Piaget did not rely heavily enough on long-term studies which indicate that moral development is very gradual, and is often subjected to disharmony and individual variability.

Kohlberg (1963, 1964, 1966, 1976) insisted that there are aspects inherent in a child's general cognitive growth, which provide a framework for the moral judgements they elicit at different ages. He maintained that in terms of moral development children progress through an invarient sequence of stages, independent of cultural variations.

The following is an outline of Kohlberg's levels of moral development:

> Level 1. Pre-moral level:
>   1. Punishment and obedience orientation...
>   2. Naive instrumental hedonism ...
> Level 2. Morality of conventional rule-conformity:
>   3. Good-boy morality of maintaining good relations...
>   4. Authority-maintaining morality...
> Level 3. Morality of self-accepted moral principles:
>   5. Morality of contract and democratically-accepted law...
>   6. Morality of individual principles of conscience.
> (Maccoby, 1968, p. 236)

Kohlberg disagreed with Piaget's illustration of the morality of children with regard to their respect for rules (Maccoby, 1968). He agreed that young children are governed by rules in the sense that they try to evaluate what adults consider right or wrong (Kohlberg, 1966). However, he felt that young children conform to rules because they desire gratification, instead of Piaget's belief, that rules have an absolute power of their own (Kohlberg, 1964).

Turiel (1969), a research associate of Kohlberg's, noted that when children are exposed to reasoning and strategies one stage higher than their own, an imbalance occurs. The child comprehends a contradiction between his own level of reasoning and the higher one; consequently, the conflict produced by this realization creates a state of disequilibrium. In order to restore a sense of balance the child must accommodate to the higher stage.

Kohlberg (1964) maintained that it is only through some real experience with dissonance; for example, when there is an opinion difference about which rules should apply in a game, that children realize how certain general moral principles must be formulated. This realization helps them to decide what course of action should be taken.

Kohlberg (1964, 1966) did not claim that his stages account for all the variation often observed in moral judgements. He contended that there are a variety of individual environmental factors which affect a child's moral judgements and comprehension of rules, without invalidating the "stage" theory (Maccoby, 1968).

One of the most important environmental factors is an individual's peer-group (Devereux, 1976; Papalia and Olds, 1975).

Children with extensive peer-group participation

> advance considerably more quickly through the Kohlberg stages of moral judgement than children who are isolated from such participation. . . . these same determinants lead to more moral behavior as well. (Kohlberg, 1966, p. 17)

Another important factor in a child's moral development is his socioeconomic status (Kohlberg, 1964). Lower class children progress through the stages of moral development at a slower rate than middle class children (Kohlberg, 1964, 1966; Maccoby, 1968). Kohlberg (1966) insisted that this is because lower class children have "lesser understanding of the broader social order and lesser sense of participation in it" (p. 16). In general terms, an upper elementary school child must begin to take the roles of others toward himself and he must conform to group sanctions (Kohlberg, 1966, 1968). A problem arises when the lower class child cannot comprehend the values of the higher status social institutions, and his rate of internalization of moral values and rules decelerates (Kohlberg, 1966).

Mead (1934) noted that when children are playing a game, each individual child must acquire some understanding of the roles played by others.

> He must know what everyone else is going to do in order to carry out his own play.... They do not all have to be present in consciousness at the same time, but at some moment he has to have three or four individuals present in his own attitude.... In a game then, there is a set of responses of such others so organized that the attitudes of one calls out the appropriate attitudes of the other. (p. 151)

The rules which constitute a game help determine how the child will perceive the roles of his peers (Mead, 1934).

Older children have a great interest in rules, and they often make up rules on the spot in order to overcome difficulties (Mauldon and Redfern, 1969; Mead, 1934).

Both Piaget's and Kohlberg's cognitive theories of moral development bear opposition to the moral developmental views proposed by many psychoanalytical and learning oriented theorists (Lerner, 1976; Turiel, 1969). According to Freudian theory internalization of moral judgements and rules, is believed to occur very early in a child's life and it involves the child taking over parental restraints in fairly rigid terms (Kay, 1970; Maccoby, 1968). These moral values internalized from an individual's parents, persist relatively unchanged throughout life (Liebert, Poulos, and Marmon, 1977; Maccoby, 1968).

Lerner (1976) indicated that learning theorists believe moral development occurs by the amassing of a succession of learned stimulus-responses.

> If one wishes to understand the acquisition of morality, one must study the processes which underlie the acquisition of any behavior, that is ... the process of learning. (Maccoby, 1968, p. 241)

The learning theorist makes the basic assumption of habit generalization (Kohlberg, 1963); this implies that a child acquires moral behavior through the direct reinforcement of appropriate behavior, by parents and other social agencies (Turiel, 1969).

Bandura and Walters (1963) have experimentally demonstrated that moral behavior can be acquired through the observation of models without any direct reinforcement occurring to the observer. The researchers insisted that the modeling process, in affiliation with the influence of direct reinforcement, may extend the possible range of behavior modification sources. However, they still maintained that parents play a crucial role in the young child's learning of responses.

The Freudian and learning theorists represent different views about the nature of moral development and rule internalization. However, Lerner (1976) concluded, they both agree with the notion that an individual is morally mature when his behavior conforms to the rules of society.

This section dealt with several theories pertaining to children's moral development. Some theorists, particularly Piaget and Kohlberg, noted that a child's level of moral development plays an important part in determining his games playing behavior and conception of rules.

GAMES FOR UPPER ELEMENTARY SCHOOL CHILDREN

In 1959, Roberts, Arth and Bush defined a "game" as a recreational activity characterized by organized play involving physical skills, and consisting of two or more competing units within a framework of agreed upon rules, for the purpose of declaring a winner.

Since that time there has been a dramatic increase in the amount of literature produced pertaining to games for upper elementary children. Basically, this literature can be subdivided into two broad areas of concern: the first dealing with the dysfunctional aspects of games for upper elementary children, and the second with the content and structure of games and games teaching for upper elementary children.

Dysfunctional Aspects of Upper Elementary Children's Games

One of the most significant problems observed in children's games has been the increasing tendency for adults to enter and dominate children's organized game programs (Botterill, 1972; McPherson, Guppy and McKay, 1976; Orlick and Eotterill, 1975). This adult domination is caused by parents, teachers and coaches who wish to interact with highly skilled individuals and experience success which is unavailable in their own lives (Sherif and Rattray, 1976); by adults who confer emotion in the young athlete and expect to receive gratification in return (Bend, 1971; Cratty, 1975); or, by parents and coaches who establish within young children early career aspirations for the world of professional sports (Robbins, 1975; Usher and Robbins, 1975a).

Bend (1971) declared that when adult expectations are imposed, the levels of aspiration, athletic standards, and the heightened competitive urge are externally-induced and this often results in unrealistic expectations on the part of the child. Sherif and Rattray (1976) indicated their concern over this matter in the following statement:

> Until the child is able to erect abstract standards and goals for his own performance, he or she is not able to compete consistently nor to cooperate in team play directed consistently toward attaining some standards. This capacity to erect and strive for one's own aspirations for an abstract

> level of performance, often in the absence of tangible concrete rewards, develops slowly...and varies from child to child. Too often, adult workers with children... fail to recognize these facts, hence present games and tasks... that they [the children] may be able to perform but that require conceptual abilities in goal setting and self-regulation too advanced for their age. (p. 110-111)

In a study conducted by Orlick (1972), data were collected on 32 boys between the ages of 8 and 9. Of these boys, 16 were participants in organized sports programs and 16 were nonparticipants. The researcher discovered that many of the nonparticipants had never tried out for any sports teams because they believed they were not skilled enough. Among those who had previously dropped out of sports, the most common reason given was that their coaches never gave them an opportunity to play. Orlick concluded that participation in sports appears to be largely dependent upon environmental factors which directly affect both the expectations the child has regarding participation, and the reinforcement contingencies he experiences.

A more recent study by Guppy (1974), found that by grade seven 3% of the boys and 4% of the girls who had participated in sports at one time, had completely dropped out of the organized games environment. Thirty-nine percent of the boys and 30% of the girls surveyed, had stopped playing interschool sports; 75% of the boys and 50% of the girls continued their involvement in sports offered by community leagues, and only 10% of the interschool drop-outs continued to play intramural sports. Guppy indicated that this phenomenon reflected a shift of involvement from one level of organized sports to another, rather than a total withdrawal.

After analyzing the Canadian minor hockey environment and observing several distressing negative factors, such as the emphasis placed on aggression and winning; Botterill (1972), formulated the following conclusion:

> When games become more important than the people who play them it becomes apparent that the resulting environment of hate, suspicion, mistrust, etc. will produce a multitude of problems. In minor hockey these problems tend to be of the type that produce highly negative experiences for youngsters. Undesirable environmental factors are resulting in many boys being deprived of meeting needs in wholesome sport and play activities that can make important contributions to their physical growth and mental and emotional maturity. (p. 82-83)

These negative environmental factors are not only apparent in minor hockey. Devereux (1976) suggested that in general terms, highly organized little league sports programs may be destroying the spontaneous culture and motivation toward free play and games, which in previous years was a characteristic artifact of our society. Loy (1973) and Orlick and Botterill (1975) advocated the necessity of a shift occurring in children's games, from a success oriented to a satisfaction oriented activity.

With regard to the games programs operating in our elementary schools, Sande (1972) commented on the priority existing toward competition. He stated that evidence is strongly in support of fun games activities rather than the high arousal competitive environment that is too often the case. Many physical educators have mistakenly stressed competitive games, and this stress may have contributed significantly to the "failure identity" existing among many children (Padfield, 1973a). This feeling of being a failure not only becomes quickly apparent to the child having trouble performing various motor skills in a game, but also to his peers (Cratty, 1975; Gump and Sutton-Smith, 1971). The 'failures' are usually picked last by their peers when teams are selected. Thus the students never have the opportunity to develop (Padfield, 1973a).

A study by Phomin (1976) indicated that children's ability to perform motor skills while in the presence of their peers significantly affects their athletic self-concept. Those low in skill performance will display a significant downward shift in their self-concepts and those high in skill performance will exhibit an upward shift.

The organization of upper elementary school games taught by many physical educators are often categorized by large teams (Ellis, 1973). In games such as 11-a-side soccer the better players often monopolize the play and the less skilled players have very little opportunity to handle the ball and improve their skills (MacKay and Robbins, 1975). Far too often, motor skills required to play games are introduced to upper elementary children on adult playing areas, using adult equipment (Usher and Robbins, 1975b). According to Glassford (1973), research regarding the analysis of children's motor skill learning distinctly demonstrates that children cannot achieve quality movement, until their actions cease to be so strictly controlled by their surroundings.

Skinnerian psychologists have clearly demonstrated that individuals are more likely to repeat activities that provide positive reinforcement, as opposed to those that provide negative reinforcement (Skinner, 1968). Craig (1975) stated that "there exists a relationship between the quality of an individual's initial exposures to physical activity and his decision to continue to participate in physical activity in adulthood" (p. 86).

After carefully examining the literature pertaining to the effect of competition on upper elementary children; there appears to be little valid information regarding the possibility of detrimental physiological responses in children who participate in games programs. One report by James, Frogatt and Marshall (1968), indicated that although there have been cases of cardiac arrest and sudden death occurring in young athletes, autopsies have usually revealed a history of cardiac problems in the child's family. Similarly there has been very little data collected on the frequency and severity of athletic injuries to elementary children. However, Rarick (1973) mentioned a study conducted by Hale in 1967 on little league baseball players. The results of the study indicated that only 2% of a sample of five million players sustained injuries severe enough to necessitate medical attention.

The Content and Structure of Games and Games Teaching for Upper Elementary Children

Games are activities with a wide range of complexity and great diversification in the number of required skills. The skills and strategies involved vary from simple avoidance behaviors utilizing quick alterations in directions, to highly manipulative techniques employed in complicated tactical situations (Dept. of Education and Science, England, 1972; Kruger and Kruger, 1977). Games range from those requiring complex social interactions to others requiring only individual play (Mauldon and Redfern, 1969). Team games usually allow two contrasting experiences; the opposition of one team against another resulting in competition, and the cooperative interaction of teammates for the purpose of scoring points against their opposition (Stanley, 1977).

Games units for upper elementary children should have well established objectives. The importance of providing suitable games which provide for plenty of activity and enjoyment must never be de-emphasized (Curriculum Services Branch, Etobicoke, Toronto, 1973). Similarly, children's games must promote the development of motor skills, "Good management of the body and the skill to control equipment are basic requirements for success as a player" (Stanley 1977, p. 101). Coupled with a child's development of efficient motor patterns he must also learn to relate his actions to other players, the general playing environment and the rules of a game (Barrett, 1977a; Stanley, 1977). The child must learn to identify the various elements of cooperation and competition that exists in a game, and game rules must be adapted to the physical and cognitive abilities of the child (Ontario Dept. of Education, Government of Ontario, 1967). Games should exemplify culturally approved modes of behavior without stifling a child's freedom, initiative and originality (Dept. of Education, Government of Newfoundland and Labrador, 1975; Dept. of Education, Government of Nova Scotia, 1975-76).

When considering the structure and content inherent in teaching games, educators must also reflect on the advantages of including boys and girls together in activities. When this is done upper elementary children often demonstrate a greater variety of movement and an increased standard of work (Dept. of Education, Government of Nova Scotia, 1975-76). According to Stanley (1977) "They tend to cooperate with each other rather than compete" (p. 7), however, they talk and argue a lot and an arbitrator is sometimes necessary to guide their thinking when conflicts arise.

In recent years there has been a considerable amount of controversy over the use of traditional adult games in upper elementary school programs. Barrett (1977b) asserted that she is particularly perturbed over the idea that games are made up of specific skills and traditional structures. She maintained that such preoccupation with the technicalities involved in skills and games structures are inappropriate for children. However, according to Mauldon and Redfern

(1969) and Stanley (1977), children between the ages of 9 and 12 are likely to show an interest in traditional games; and they often like to participate in competitive situations using the skills associated with those games.

Kruger and Kruger (1977) did not argue over the suitability of adult games for upper elementary children. They denoted that there is merit in adult games, providing teachers are flexible and use their power of observation to modify activities. Most important of all, they illustrated that if teachers would listen to children and help them readjust games that are not functional, they would be helping their students to apply thinking behavior to the games programs (Hardisty, 1972; Kruger and Kruger, 1977).

> Doing what the coach says may fulfill some requirements that the coach perceives as important. It does not, however, lead to the growth of independent, responsible behavior on the part of the participant. This does not say that teachers should give no directions or structure no games or gamelike activities at all. But the command style of teaching should be recognized as one that leaves few decisions to the learner. (Kruger and Kruger, 1977, p. 361)

Many physical educators have become increasingly concerned over the "process" of teaching games to children. The indirect or problem-solving approach respects the right of the learner to choose his own alternatives for behaving, while the command or direct approach decrees the choices and the behavior (McKinney, 1977). McKinney (1977) emphatically noted that:

> Support for emphasizing 'process' in learning is verbalized by teachers committed to 'education' of

> the learner, while 'product' is supported by teachers who 'train' the learner. (p. 18)

The value of discovery learning is further illustrated by Ellis (1970) in the following statement:

> It is current educational philosophy to help each individual reach his potential in a way that is satisfactory to him, and recent theories suggest that pupils must learn principles for themselves. The teacher should allow children to discover for themselves the concepts related to games playing. By using the discovery or problem solving process the pupils are helped to develop their conceptual thinking, and when the principles are applied in many varied situations they can become the basis for understanding abstract concepts. (p. 4)

To assist children in the learning process, teachers may make decisions about any component of a game, and at the same time advise the students of their own options (Curriculum Services Branch, Etobicoke, Toronto, 1973). Through this procedure most children will learn a great deal from the creative management of their ideas, equipment, space and people (Kruger and Kruger, 1977; Morris, 1976b). If the children are unaccustomed to thinking for themselves, their original tasks should be simple (Hardisty, 1972), followed by a gradual increase in complexity (Graham, 1977; Kruger and Kruger, 1977). Robertson (1977) called this procedure "teaching for game readiness" (p. 25).

The American Association for Health, Physical Education and Recreation (A.A.H.P.E.R) submitted a report in 1968 concerning revisions needed in children's games. One of their most important recommendations was that the rules of adult games be modified to better accommodate the total welfare of children.

MacKay (1974) modified the game of soccer by reducing the size of the field and limiting the number of players to eight aside. As a result of these rule changes he observed that his 8 and 9 year old subjects had the opportunity to touch the ball more often, and individually control the ball for longer periods of time.

Craig (1975) developed two modified games resembling indoor soccer and basketball. After his experimental group of children participated in the games, he reported a marked increase in their self-concept toward playing games, they perceived more of their peers to have increased their ability to play games, and the group demonstrated more enjoyment toward the games activity. In reference to his results Craig made the following conclusion:

> This study supports the beliefs of many physical educators who maintain that, instead of utilizing accepted game structures en bloc in the elementary school setting, modifications should be introduced to these structures in an attempt to make physical activity and games more enjoyable and meaningful for the young child and not merely the better-skilled ones. (p. 86)

Both Morris (1976b) and Orlick (1978) succinctly indicated that teachers should outline the kinds of behavior that they feel are desirable for children, and then design the structure and the rules of their games to advance the occurrence of these desirable behaviors.

Many upper elementary children have the necessary experience to invent their own games (Mauldon and Redfern, 1969; Werner, 1977), and this is particularly true if they have shared with their teacher the enjoyment of modifying existing games (Hardisty, 1972; Riley, 1977). Morris (1977) believed that "the best games are the games that the children themselves have designed" (p. 27).

When developing their own games children should be encouraged to make rules as the need arises (Dept. of Education and Science, England, 1972). Through the decision-making procedure answers can be found to problem situations, and the children can play their games according to mutual consent (Mauldon and Redfern, 1969).

A study by Peake (1974) illustrated that grade six children are keen on inventing games. The researcher stated that children have a strong desire to be involved in developing new games by themselves, "Success to them,... is being able to master the game in terms of skills, rules and team play" (p. 45).

Riley (1977) expressed a profound viewpoint about children's original games:

> If we are to prepare children to cope adequately with the demands of all forms of games it seems imperative that in elementary school physical education we create alternative approaches to skill development and games playing that are consistent with the characteristics of children, ... satisfying current educational concerns related to attitudes toward self and others, and for challenging children cognitively in their own learning. I believe original games have the potential for doing this without sacrificing the preparation of the children for later successful participation in traditional games.... Of equal significance in the original game experience are the insights the teacher acquires about children in the process of learning to play games. (p. 30)

Orlick (1977, 1978) has done a considerable amount of research on cooperative games for elementary school children. He has developed over 50 cooperative games within four major categories; these categories include: (1) cooperative games with no losers, involving games designed to keep children playing and not be eliminated (example: Cooperative Musical Chairs). (2) Collective score games, involving "two or more teams working toward a common end" (1977, p. 34); one team cannot achieve success by competing against another, instead, they must all work together (example: Collective Score Blanketball). (3) Reversal games, utilizing the traditional concept of teams winning and losing, however, players become members of both teams (example: Rotational Volleyball). (4) Semi-cooperative games, which closely resemble traditional structures with the exception of having specific strategies employed to bring everyone into the action (example: All Touch).

In his recently published book Orlick (1978) indicated that the primary objective of cooperative games is:

> To provide opportunities for cooperative learning and funfilled cooperative interaction. ... merely bringing competitively socialized people together in small groups is not sufficient to enhance cooperation or liking. The people must be linked together in some interdependant way; the structure of the activity sets the conditions for interdependence. (p. 159)

Jensen (1979) agrees with Orlick on the importance of cooperative games. He indicated that cooperative games provide models for appropriate social behavior and these models are "to some degree accommodated by children" (p. 209).

In retrospection, it appears that the majority of researchers and educators concerned with the teaching of games to upper elementary school children, stress the value of allowing children to play a more active role in the development of their games. Games units should provide the children with plenty of opportunities for vigorous and enjoyable learning experiences. Above all, conducive learning situations need to be created, "wherein the children may be guided to discover principles for themselves through problem solving and inventing situations to test their abilities and knowledge" (Ellis, 1970, p. 5).

ATTITUDE THEORY AND MEASUREMENT

The term "attitude" has been used in psychological literature for over a century. Allport (1967) reported that Herbert Spencer utilized the term in a psychological context in his book, First Principles, published in 1862. In the latter part of the nineteenth century German experimental psychologists used the term to describe a variety of motor sets which influenced thought and action. More explicitly "N. Lange one of the psychologists developed a motor theory wherein the process of perception was considered to be in part a consequence of muscular preparation or 'set'" (Allport, 1967, p. 4).

In 1918, Thomas and Znaniechi instituted the concept of attitude as a central feature in sociological investigations.

They considered social psychology to be the scientific study of attitudes.

Many researchers have attempted to define attitude; Koller and Ritchie (1978) stated that attitude is "the tendency to act toward an object (human or non-human, material or nonmaterial) or class of objects in a particular way" (p. 299). Allport (1967) provided a much more detailed explanation, he described attitude as, "A mental and neural state of readiness, organized through experience exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (p. 8).

A very popular conception of attitude was formulated by Katz and Stotland (1959); and Krech, Crutchfield and Ballachey (1962). According to their views an attitude consists of cognitive, emotional, and action tendency components. The cognitive component consists of the beliefs, ideas, or factual knowledge one has about some object, experience or person. The emotional component is often referred to as the affective aspect (Martens, 1975), and it relates to the feelings an individual attaches to an attitude object. When a person can verbalize such things as hate or love for an object, much more is involved than mere feelings, they are also cognitions (Katz and Stotland, 1959). These cognitions are significantly different from those of the cognitive component. "Cognitions of feelings and emotions refer not to the object but to the one who cognizes, the individual who is responding to the object" (Summers, 1970, p. 3).

The action tendency component incorporates the readiness of an individual to respond to the object, and there is a notion that beliefs and the direction of the action tendency will tend to show consistency (Katz and Stotland, 1959). A direct link has also been reported between the emotional and action tendency aspect. This connection is presumably mediated by the physiological relationship of an individual's emotional state to his readiness to respond (Summers, 1970). Funkenstein (1957) found that subjects who react to stress with observable aggressive behavior, also have an above normal quantity of norepinephrine in their blood. Norepinephrine is an enzyme which has been directly traced to such emotions as fear and anger (Summers, 1970).

According to Schellenberg (1970) many social psychologists consider attitude formation and change to be a reflection of the basic laws of learning. As a result of their research, Staats, Staats, and Heard (1960) concluded that formation and change in attitudes involve the acquisition of learned responses, especially when individuals are administered continuous reinforcement as opposed to partial reinforcement.

> Attitudes belong to the domain of human motivation the initial appearance of which depends upon learning....
>
> They are formed or learned in relation to identifiable referents, whether these factors are persons, objects, groups, values, institutions, social issues, or ideologies. (Sherif and Sherif, 1969, p. 343)

Osgood and Tannenbaum (1955) formulated a congruity theory of attitude change. The theory was developed as an extension of a study which measured the degree of communication in various messages. The researchers focused their attention on the source of a message, and the concept conveyed by the source. Congruity is obtained when a person makes an appropriate evaluation of both the source and the concept, and the method used to convey the concept. Conditions of congruity will not produce a change in attitude; it is a state of incongruity that is most likely to bring about change.

Heider (1958), from an interest in human perceptions, developed the theory of cognitive balance. Schellenberg (1970) considered both the congruity and cognitive balance theories to have the same central focus, "Human nature abhors cognitive inconsistency, and so we tend to reorganize attitudes toward a condition of maximum evaluative consistency" (p. 116).

Over the years researchers have come to realize, when attempts are made to measure attitude, that the process can become very complicated since attitudes cannot be observed directly, but must be inferred from behavior (Saunders and White, 1977). Summers (1970) noted that when measuring phenomena which is inaccessible to direct observation it is beneficial to conceptualize the measurement process as consisting of three subprocesses: (1) identification of behavioral samples which are acceptable as a framework for making inferences about the underlying concept; (2) collection of the behavioral samples; and (3) treatment of the behavioral samples so as to reorganize them into a quantitative variable.

> Decisions as to what is acceptable as a basis for inference may preclude some methods of specimen collection as well as restrict the manner in which the specimens can be treated. Thus a decision concerning one aspect of the problem will automatically affect the degree of freedom for the other two. (Summers, 1970, p. 1)

A further aspect of attitudes which has direct relevance to attitude measurement was discussed by Murphy, Murphy and Newcomb (1937). The researchers claimed that the concept of attitude involves the notion of two extremes between which individuals will vary in opposing or favoring some psychological object. Thurstone and Chave (1956) stressed that no researcher should ever assume a normal distribution will occur among any groups of individuals when they are questioned about their attitudes. According to Magary (1967) the most important point to remember when attitude measurements are taken revolves around the subject's honesty in responding to the questions or statements. Gronlund (1965) stated, "attitude scales . . . are primarily useful where the individual has little reason for distorting the results, such as in the development of self-understanding or research" (p. 354).

Many researchers favour the use of the Likert-type scale for measuring attitudes and "the popularity of Likert's method has been attributed to its ease of construction and reliability" (Travers, 1973, p. 764). Remmers, Gage, and Rummel (1965) have also indicated that the validity of the Likert method is comparable to other attitude scales which have been extensively used, for example, the scale developed by Thurstone.

With regard to the assessment of children's attitudes, Simon and Smoll (1974) noted that most children between the ages of 9 and 12 are developing basic attitudes about their environment. Therefore, children's attitudes can be measured (Girod, 1973), provided the testing instrument uses vocabulary and directions within their level of comprehension. According to Likert (1967), statements used to elicit attitude responses should be stated in such a manner that, "persons of less understanding than any member of a group for which the test is being constructed will understand and be able to respond to the statements" (p. 91).

CHILDREN'S ATTITUDES TOWARD GAMES

This final section of the review deals with children's attitudes toward the playing of games involving physical skill. As previously indicated in the first section of this chapter, Webb (1969) theorized that when children advance from participation in informal play to highly organized games, their attitude toward games becomes "professionalized." They appear to place an increasing emphasis on skilled performance and winning. Heinila (1969) had a similar notion of children's attitudes toward games. He indicated that young children emphasize spontaneous play in their games while the older individuals emphasize the game outcome and play to win. According to Watson (1976), there is a marked social class difference apparent in little league baseball players with regard to their stress on achievement mastery. Twelve year old working class players have the strongest regard for this element, "compared to the middle class players who are dramatically low in their evaluation" (Watson, 1976, p. 107).

Sportsmanship as an attitude inherent in the playing of games has been a concern of some researchers. McAffee (1955) gave a nonscaled sportsmanship inventory to 857 sixth, seventh and eighth grade boys. The results illustrated that the boys' sportsmanship attitudes became progressively lower as they progressed from the sixth to the eighth grade. Lakie (1964; cited in Martens, 1975) found no difference in the attitudes of games players from different types of schools with regard to their assessment of the "win at all cost" philosophy.

In a study conducted on grade seven and eight northern native and Canadian southern children, the traditional game of broomball was modified to allow more cooperative play experiences (McNally and Orlick, 1977). As a result of this investigation McNally and Orlick made the following conclusion:

> When children were asked what they thought of the new rules, positive responses were obtained from 85% of the northern girls, 57% of the southern girls, 45% of the northern boys and 9% of the southern boys.... Fifty percent of the northern boys and 50% of the northern girls felt that these were more fun than the regular ones, whereas only 18% of the southern boys and 43% of the southern girls felt this way.... When asked if they would like to play this game again, 38% of the southern children said no. No northern children responded in this manner. (p. 3)

Children spend the majority of their free time outside of school involved in play activities and games, and their game preferences show marked sex differences (Lever, 1976).

Cratty (1967) noted that males are more active and gain leadership experience through games of physical endeavor, while girls are involved in games which emphasize manipulative activity. However, studies by Brown (1958) and Ward (1968) indicate young girls seem to participate in a wider range of games.

Comparing the results of child rearing practices and cross-cultural studies, Roberts and Sutton-Smith (1962) suggested that boys usually receive more achievement training. Therefore, they are more likely to desire games of physical skill; whereas, girls who generally receive more obedience and responsibility training, are more likely to seek out games of chance or strategy. Zoble (1976) also asserted, when girls receive achievement training, they too will often engage in games of physical skill as a means of attaining mastery and achievement.

In an investigation by Lever (1976), the researcher contended that boys' games usually last longer than those of girls'. Two major reasons for this occurrence are as follows: first, the skill level is generally higher in boys' games. A group of primary age boys find a game of baseball fun, and those same boys at the age of 12 can play the same game and enjoy it just as much because their skills have been progressively improving. In contrast, girls who play tag during their primary years still play the same games as sixth graders, but find the game boring. "To be sure, they are better ... runners, but the ceiling of skill was reached long ago"

(Lever, 1976, p. 482).

Second, boys can resolve disputes that arise in their games more effectively. Lever noted that boys often quarrel over game rules, but their games usually continue after a short debate. Traditional girls' games like hopscotch are turn-taking games where the nature of competition is indirect. These turn-taking games do not contain contingent rules of strategy as in many traditional boys' games; rather, they are regulated by rules of procedure. "Given the structure of girls' games, disputes are not likely to occur. Thus, girls gain little experience in the judicial process" (p. 483).

In summarizing the research regarding sex differences between boys and girls in their play and games activities, Zoble (1976) made the following comments:

> ... we see that as biology and culture interact during the females development, she is more likely than the male to become passive, dependent, and non-aggressive, to be less sure of her prescribed role, and to choose a wider range of play choices just before puberty, which she will probably narrow after puberty when she reaches an age where society offers a more definite stereotyped role for her. (p. 188)

The research reviewed in this section pertaining to sex differences in children's game preferences appears to add credibility to Zoble's summation.

SUMMARY

This chapter has presented a review of the literature which is directly related to the research problem.

The discussion focused on the physical and psychosocial characteristics of upper elementary school children related to the playing of games and games teaching. Prominent theories related to children's moral development and conception of rules were investigated with particular emphasis placed on the moral developmental theories proposed by Piaget and Kohlberg. The review discussed games for upper elementary school children in regard to the dysfunctional aspects related to games, and the content and structure of games and games teaching. Literature pertaining to attitude theory and measurement was investigated; and research related to children's attitudes toward games formed the concluding section.

CHAPTER III

METHODS AND PROCEDURES

INTRODUCTION

This study utilized two methods of data collection to determine attitudes: inventory response and individual interviews. In both methods the subjects were required to indicate agreement or disagreement with a predetermined collection of statements about the playing of games and making rule changes in selected game structures.

DEVELOPMENT OF THE ATTITUDE INVENTORIES

The use of attitude inventories was selected as the primary source of data collection. Initially, the researcher prepared two lists of items, the first contained 22 statements dealing with children's attitudes toward the playing of games, and the second contained 31 statements dealing with children's attitudes toward the changing of game rules. These lists (Appendix A) were then sent to a panel of 10 judges at the University of Alberta, who were considered knowledgeable in the area of elementary school games and children's attitudes toward games.

The judges were informed that the researcher intended to use between 10 and 15 items from the first list, and between 15 and 20 from the second. They were also told that a balance of statements was desired concerning the physical, social, emotional and intellectual aspects of modified game rules. The judges were then asked to determine the suitability of each statement for a grade six population, to indicate any other items which, in their opinion, should be included in the inventories, and to suggest changes in those statements that appeared ambiguous.

A decision rule similar to that used by Padfield (1978) was set for the inclusion or elimination of an item; specifically, statements receiving a minimum combined "Definitely Include" (1) and "Possibly Include" (.5) score of 7.5 were to be used in the final inventories. The method required a minimum of five "Definitely Include" and five "Possibly Include" responses or better from the 10 judges.

This procedure also served to determine the content validity of the two inventories. "Examining content validity ... requires judging whether each item--and the distribution of the items as a whole--covers what the tester wants to measure" (Cronbach, 1970, p. 148). According to Clarke (1967) a researcher must establish a criterion of the attitude being measured and compare the inventory with this criterion. If the two have a high relationship, the investigator may logically conclude that the inventory measures the same attitude as does the criterion. Validity may be determined by relating the inventory to the opinion of experts in the particular field (Barrow and McGee, 1971).

After the judges scored all the statements, the researcher, totalled the scores for each item and selected those statements which had a pooled assessment of 7.5 or better. From the first list 11 statements were selected concerning children's attitudes toward the playing of games. It was considered necessary to add a 12th statement (item 5 on the pretreatment inventory) to probe the children's attitudes toward playing games outside of school that they make up themselves. From the second list 17 statements were originally selected concerning attitudes toward the changing of game rules. However, three additional items (items 14, 20 and 22 on the experimental group's posttreatment inventory) were added to improve the balance of statements referring to the teacher changing rules. The two lists of selected statements were then randomly ordered to form two attitude inventories (Appendix B).

The researcher selected the Likert Method of scoring the attitude inventories. This method ensured one of the following responses from the children for each item on the inventories: strongly agree (1), agree (2), disagree (3), or strongly disagree (4).

To determine the reliability of the two inventories, the test-retest method was utilized. This method is useful when alternative forms of an inventory are not available or not possible to construct (Borg, 1963).

The inventories were administered during a regular lesson period to a class of grade six children at Lendrum Elementary School in Edmonton. Twenty-five children completed the inventories, but they were not told there would be a retest.

Eight days later at approximately the same time, the children were asked to complete the inventories once more. A time lapse of eight days was permitted because:

> When the test-retest method is used, the interval between tests should be at least several days so that the student's memory of his answers does not spuriously increase the consistency of scores. However, the time interval should not exceed two or three weeks because we are trying to measure stability of students' on the test ... (Adams, 1964, p. 85).

The Pearson Product Moment Correlation was used to determine the reliability coefficient of the attitude inventories. The first inventory, "Children's Attitudes Toward the Playing of Games," had a reliability of .78, and the second inventory, "Children's Attitudes Toward the Changing of Games Rules" had a reliability of .73. A reliability of .82 was obtained when the scores on both inventories were totalled for each subject. This higher coefficient may have been caused by the greater variation existing in the range of scores after the inventory assessments were totalled. It was decided that the reliability coefficients noted above were satisfactory for the purposes of this study.

The researcher decided to randomly combine the statements on the two previously mentioned inventories, and form a third inventory (Appendix B) entitled, "Children's Attitudes Toward the Playing of Games and Rule Changes." Although this procedure may have affected the reliability of responses to some degree from that of the other two inventories, it was considered advantageous to disguise the statements on the first inventory, among those of the second.

DEVELOPMENT OF THE INTERVIEW

In the present study a four question "open-ended" interview schedule (Appendix C) was designed, using the previously described attitude inventories as a reference. According to Good and Scates, "Studies of attitude, in the usual experimental form, may reveal no average change in the attitude of the groups, but the interview may provide significant explanation" (1954, p. 639). Various probes were included with each leading question, "Probing is the technique used by the interviewer to stimulate discussion and obtain more information" (Institute for Social Research, 1969, pp. 2-4). The schedule was scrutinized by three of the previously mentioned experts to remove redundancy and awkward wording. A schedule guide (Appendix C) was written based on a similar guide prepared by Padfield (1973b). Part of this guide, the "Introduction to the Interview," was read to each respondent prior to the interview so that each would receive the same information.

In order to select questions for the interview schedule the researcher had to determine the objective of each question. Item one was designed to determine how the children felt about the games they played during the treatment period. Item two had a double purpose; first, to check whether the children preferred the teacher or themselves developing the games and changing the rules, and second , to investigate the interactions and experiences that occurred among the children while the games were being developed. In item three an attempt was made to determine if the treatment period had changed the children's attitudes toward playing games. The fourth item was included to ascertain whether the children understood the statements on the pre and posttreatment inventories; and to allow them an opportunity to make any final comments they wished about the games they had played.

SUBJECTS AND SETTING

The study used three classes of grade six children from the Edmonton Public School System. Two classes from one school comprised the experimental groups and one class from another school was used as the control group. The first experimental class consisted of 30 children and the other class had 26 students. The average age of the children was 11.5 and 11.8 respectively, the average age for all 56 experimental children was 11.7 years. The control class consisted of 25 children with an average age of 11.7. Overall, the children ranged from 10.3 to 12.9 years of age. The classes included both males and females and there were no select groups of any predetermined nature. This ensured a reasonable degree of heterogeneity among the members of all three classes.

The experimental and control groups participated in a total of 12 games lessons, each being 30 minutes in length. All games lessons were conducted in the gymnasium located in each school.

A total of 12 experimental children were selected for the interviews. These interviews were conducted in a conference room and the children sat at a table approximately three or four feet away from the interviewer. The interviewer positioned himself at a perpendicular angle across from his subjects.

THE MODIFIED GAME STRUCTURES

A goal and a court game structure were utilized in this investigation and the researcher develped "Rule Guidelines" for these game structures (Appendix D). The purpose of the guidelines was to familiarize the teacher of the experimental classes with the game structures, and to ensure that the experimental classes stayed within the framework of the game structures when the teacher and children were developing their games. The guidelines described specific rules to be followed, provided various alternatives, some of which had to be selected, as well as others that were optional.

PROCEDURE

Pretreatment Procedure

Three weeks prior to the treatment period, the teacher of the two experimental classes was given a copy of the rule guidelines for the modified game structures. All aspects of the game structures were explained to the teacher and questions regarding the structures were answered by the researcher. The teacher of the control class was asked to prepare 12 traditional games lessons.

During the last physical education lesson prior to the treatment period; all classes involved in the investigation were given the pretreatment inventory, "Children's Attitudes Toward the Playing of Games." At the next lesson, both the control and experimental classes began the first of the 12 consecutive lessons comprising the treatment phase of the study.

The Control Condition

The control class was given seven volleyball and five basketball lessons, these periods were taught by the control teacher who used the command style of teaching. The control teacher emphasized the learning of the skills associated with volleyball and basketball, and toward the end of each game unit the children played games which closely resembled the above mentioned traditional games.

The Experimental Conditions

Experimental Class One

1. Goal Game Structure: Teacher Selected Rules

Over a period of three lessons the experimental teacher was directly responsible for instructing the children and developing a goal game within the guidelines as specified by the researcher. During the first lesson the teacher selected rule options from the guidelines and introduced a goal game that was played by the children. The remaining two lessons were very similar to the first period as the teacher continued to develop the game.

2. Goal Game Structure: Children Selected Rules

For the three lessons involved in this portion of the treatment period, the experimental teacher allowed the children to develop their own goal game and to change the rules as required. In the first lesson the teacher explained the rule options that were stated in the guideline, and a goal game structure chart was provided for the children to use throughout the remaining lessons. During the next two lessons the children continued to develop their game using suggestions offered by the teacher and the chart.

3. Court Game Structure: Children Selected Rules

At this stage of the treatment period the experimental teacher allowed the children to develop their own court game from the alternatives stated in the court game structure guideline. In the first lesson the teacher explained the rule options and a chart was provided for the children to utilize throughout the treatment period. The children began to develop their game with the teacher offering suggestions when major problems arose. This procedure continued for the next two lessons.

4. Court Game Structure: Teacher Selected Rules

This part of the treatment period was similar to the first phase explained above, except the court game structure was utilized rather than the goal game structure.

Experimental Class Two

Each phase noted below was similar to those above, with the exception of having the experimental teacher and children treatment procedures reversed in order, for both game structures.

1. Goal Game Structure: Children Selected Rules
2. Goal Game Structure: Teacher Selected Rules
3. Court Game Structure: Teacher Selected Rules
4. Court Game Structure: Children Selected Rules

Figure 1

DESIGN OF EXPERIMENTAL CONDITIONS

Experimental Class #1

Goal Game Structure TEACHER SELECTED RULES	Goal Game Structure teacher → CHILDREN SELECTED RULES
Court Game Structure teacher → CHILDREN SELECTED RULES	Court Game Structure TEACHER SELECTED RULES

Experimental Class #2

Goal Game Structure teacher → CHILDREN SELECTED RULES	Goal Game Structure TEACHER SELECTED RULES
Court Game Structure TEACHER SELECTED RULES	Court Game Structure teacher → CHILDREN SELECTED RULES

Posttreatment Procedure

The day after the control and experimental classes had finished the treatment period, they were given a posttreatment inventory. The control class was readministered the inventory, "Children's Attitudes Toward the Playing of Games"; and the experimental classes were given the previously described inventory, "Children's Attitudes Toward the Playing of Games and Rule Changes." After the classes completed the inventories, they were asked to fill in a general information questionnaire (Appendix E). This questionnaire was designed to determine the children's previous experience playing games in organized sports leagues or clubs outside of school, and in their school's intramural program.

During the week following the treatment period, interviews were conducted with 12 of the experimental children. These children consisted of six boys and six girls, three of each being randomly selected from both experimental classes. As previously mentioned, a short introduction was read to each child prior to the interview.

TREATMENT OF THE DATA

All background data pertaining to the children's previous experience playing games involving physical skills were answered directly on the general information questionnaire. A breakdown of this information can be found in Appendix F.

The children were asked to mark their responses to the pre and posttreatment attitude inventories on a General Purpose - NCS - Answer Sheet. These responses were then optically scored by the AMDAHL - 470 computer at the University of Alberta Computing Services Department.

The majority of the statements on the inventories were worded in such a manner that they were scored according to the following system: one point was given for a strongly agree response, two for agree, three for disagree and four for strongly disagree. Some of the statements were worded in a negative form that required a reverse scoring procedure.

The analysis of the data collected from the pre and posttreatment attitude inventories initially involved computerized calculation of alpha reliability coefficients (Cronbach, 1970). This technique was used to compare the statement responses of the children on the pretreatment inventory, "Children's Attitudes Toward the Playing of Games," and help determine whether the statements on the inventory could be grouped into any of the following categories: physical items, social items or emotional items. A similar procedure was followed for those statements on the posttreatment inventory, "Children's Attitudes Toward the Playing of Games and Rule Changes," which directly referred to the changing of game rules. In addition to the categories mentioned above a fourth category, intellectual items was included for these statements. The researcher decided to accept only those items where the alpha reliability coefficients reached .50. This procedure gave reasonable assurance that there was an acceptable relationship between the items of each category as they pertained to: (1) the playing of games, and (2) the changing of game rules (Dubois, 1965). Raw data illustrating the children's responses to all inventory statements can be found in Appendix F.

The data that remained concerning the children's attitudes toward the playing of games were summated and subjected to a two-way analyses of variance (Edwards, 1960). This was done to determine significant differences between the Treatment Groups x Sex with repeated measures for the accepted categories on the pre and posttreatment inventories. Where applicable the Newman-Keuls method corrected for unequal means, was utilized to compare mean differences (Ferguson, 1976). The researcher used t-tests for independent samples to analyze the data pertaining to the experimental children's attitudes toward the changing of game rules.

All data were analyzed for significant differences between means with the level of significance chosen at five (.05) percent. The above statistical analyses were completed using the Statistical Package for the Social Sciences (SPSS) - version H.

CHAPTER IV

RESULTS AND DISCUSSION

INTRODUCTION

The purpose of this chapter is to present and discuss the results of the study. A discussion of the pre and posttreatment results of the children's attitudes toward the playing of games, as well as the changes that occurred in the children's attitudes are presented in the first section. The posttreatment results of the experimental children's attitudes toward the changing of game rules are presented in the second section. Excerpts of the interviews conducted with selected children from both experimental classes are illustrated in the third section, with a discussion of the interview responses in the fourth. The chapter concludes with a general discussion of the results.

PRE AND POSTTREATMENT RESULTS OF THE CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES

A total of 79 children responded to the pre and posttreatment attitude inventory statements pertaining to the playing of games. A boy and a girl from the second experimental class were absent when the pretreatment inventory was administered; thus their posttreatment results were not included in the data analysis.

Results of the Alpha Reliability Tests Conducted on the Pretreatment Attitude Responses

In order to measure the effect of the game programs on the children's attitudes toward the playing of games, the researcher scrutinized the statements on the pretreatment inventory, "Children's Attitudes Toward the Playing of Games," and assigned specific items to three different categories. These categories were items related to the physical, social and emotional aspects of playing games.

The children's responses were subjected to alpha realiability procedures to determine the degree of relationship among the items within each of the three categories. A decision was made to accept only those categories of items where the alpha reliability coefficient reached .50 (Dubois, 1965).

In order to group items that revealed the criterion alpha reliabilities, it was necessary to manoeuvre statements having a negative or a low reliability score and test them in one or both of the other categories. Each time statements were shifted among the categories an alpha reliability test was conducted.

It was initially hypothesized that four statements on the pretreatment inventory could be identified as physical category items. Table I presents the original statements and shows the three items that were categorized for the final alpha reliability test. The items assigned to the physical category for the final test had an alpha coefficient of .56.

Table I

STATEMENTS IN THE PHYSICAL CATEGORY PERTAINING TO THE CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES

The Hypothesized Physical Statements

Children get plenty of exercise when they play games.

Playing games is only good for children who are good at sports.

Playing well is more important than winning a game.

Children can try new skills when they play games.

(alpha reliability coefficient = 0.00)

Items Included in the Physical Category After the Alpha Reliability Tests

Children get plenty of exercise when they play games.

Playing well is more important than winning a game.

Children can try new skills when they play games.

(alpha reliability coefficient = 0.56)

Note: All statements in the finalized physical category were worded in a positive manner.

As indicated in Table I only one of the originally hypothesized physical statements was removed. Of the statements that remained two referred to "exercise" and "playing well" and the other referred to "trying new skills". Consequently, the researcher reasoned that these statements dealt with physical aspects pertaining to the playing of games and that the physical label applied to this category was justified.

Five statements on the pretreatment inventory were initially hypothesized as social category items. As a result of an initial test two of the original social category items were removed and replaced by two others. Table II presents the initial statements along with the five items that were clustered for the final alpha reliability test. The items assigned to the social category for the final test had an alpha coefficient of .49. Although this coefficient did not reach the required criterion for acceptance, the researcher kept the statements together because their "five items standardized item alpha" was .50, which was acceptable. An examination of the final cluster of statements revealed that the first two items appeared to make reference to a social preference, "playing the same games all the time" and "playing floor hockey and basketball rather than new games that children make up themselves." The third statement referred to a form of social interaction, "getting angry when opponents win a game." The fourth statement appeared to have forced the respondents to make a social judgement regarding games being "only good for children who are good at sports." The fifth

Table II

STATEMENTS IN THE SOCIAL CATEGORY PERTAINING TO THE CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES

The Hypothesized Social Statements

Playing games helps children learn how to cooperate with others.

Children like playing the same games all the time.

Children should make up the rules for their games.

Children would rather play floor hockey and basketball than play new games that they make up themselves.

Many children want to hog the ball all the time when they play games.

(alpha reliability coefficient = -0.24)

Items Included in the Social Category After the Alpha Reliability Tests

Children like playing the same games all the time.

Children would rather play floor hockey and basketball than play new games that they make up themselves.

Children get very angry when their opponents win a game.

Playing games is only good for children who are good at sports.

Many children want to hog the ball all the time when they play games.

(alpha reliability coefficient = 0.49)

Note: All statements in the finalized social category were worded in a negative manner.

statement referred to a lack of social interaction, "children wanting to hog the ball all the time." After scrutinizing the final cluster of proposed social items the researcher reasoned that the statements dealt with social aspects pertaining to the playing of games; therefore, the social label applied to this category was justified.

Three statements on the pretreatment inventory were initially hypothesized as emotional category items. Table III presents the original statements and shows the four items that were clustered for the final alpha reliability test. The items assigned to the emotional category for the final test had an alpha coefficient of .28. This low coefficient indicated that no clear relationship existed among the statements, and they could not be labelled as emotional items. This category of statements was not used in any further statistical analysis pertaining to this study.

Summary

In order to measure the effect of the game programs on the children's attitudes toward games, the clusters of items identified through the alpha reliability process were used. There were three items categorized as physical and five categorized as social. There were no items categorized as emotional.

The Two-Way Analysis of Variance with Repeated Measures and the Change in Attitudes that Occurred between the Pre and Postreatment Periods

The results of the two-way analysis of variance, con-

Table III

STATEMENTS IN THE EMOTIONAL CATEGORY PERTAINING TO THE CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES

The Hypothesized Emotional Statements

It is fun to play games during physical education class.

Children enjoy helping their friends make up their own games when they play outside of school.

Children get very angry when their opponents win a game.

(alpha reliability coefficient = 0.07)

Items Included in the Emotional Category After the Alpha Reliability Tests

It is fun to play games during physical education class.

Playing games helps children learn how to cooperate with others.

Children should make up the rules for their games.

Children enjoy helping their friends make up their own games when they play outside of school.

(alpha reliability coefficient = 0.28)

ducted on the summated responses to the physical category of items pertaining to the playing of games, are presented in Table IV. A significant group effect was found; however, the post-hoc Newman-Keuls comparisons resulted in no significant mean differences between the three groups. As noted in the table, the standard deviations reflect a lack of homogeneity of variance and this, along with the unequal number of subjects in each group, precluded the possibility of obtaining significant differences (Ferguson, 1976). The analysis of variance found no other significant differences. This indicated that the attitudes of the three groups of children had not changed regarding the physical aspects of playing games.

The results of the two-way analysis of variance, conducted on the summated responses to the social category of items pertaining to the playing of games, are presented in Table V. A significant group effect was found; however, the post-hoc Newman-Keuls comparions resulted in no significant mean differences between the three groups. As shown in the table, the standard deviations indicate a lack of homogeneity of variance and this, along with the unequal number of subjects in each group, prevented the possibility of obtaining significant differences.

The analyses of variance revealed that there was a significant difference between the boys' and the girls' responses to the social items on the attitude inventories. The lower

Table IV

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE OF THE PRE AND POSTTREATMENT ATTITUDE SCORES ON THE PHYSICAL CATEGORY BETWEEN THE THREE TREATMENT GROUPS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Groups (A)	18.212	2	9.106	5.076*
Sex (B)	0.434	1	0.242	0.624
A × B	2.432	2	1.216	0.678
Error	130.963	73	1.794	
Pre-Post (C)	1.667	1	1.667	1.295
A × C	2.058	2	1.029	0.799
B × C	0.245	1	0.245	0.191
A × B × C	6.799	2	3.399	2.639
Error	94.024	73	1.288	

$* = p \leq .01$

	Pre-Post Mean Score	Pre-Post Standard Deviations
Exp. Class 1 (N=30)	1.63	1.05
Exp. Class 2 (N=24)	1.58	1.00
Cont. Class (N=25)	1.85	1.47

Table V

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE OF THE PRE AND POSTTREATMENT ATTITUDE SCORES ON THE SOCIAL CATEGORY BETWEEN THE THREE TREATMENT GROUPS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Groups (A)	36.01	2	18.005	4.194**
Sex (B)	27.956	1	27.956	6.512*
A x B	16.665	2	8.332	1.941
Error	313.375	73	4.293	
Pre-Post (C)	0.044	1	0.044	0.023
A x C	4.549	2	2.275	1.181
B x C	2.347	1	2.347	1.218
A x B x C	1.721	2	0.860	0.447
Error	140.656	73	1.927	

* = p ≤ .01

** = p ≤ .05

	Pre-Post Mean Score	Pre-Post Standard Deviations
Exp. Class 1 (N=30)	2.03	1.4
Exp. Class 2 (N=24)	1.9	1.98
Cont. Class (N=25)	2.14	1.84
Boys (N=38)	2.12	1.8
Girls (N=41)	1.94	1.68

mean score of the girls for the social items (Table V) indicated that they had a more positive attitude than the boys toward the social aspects of playing games. No other significant differences were found, an indication that the attitudes of the three groups of children had not changed regarding the social aspects of playing games.

POSTTREATMENT RESULTS OF THE EXPERIMENTAL CHILDREN'S ATTITUDES TOWARD THE CHANGING OF GAME RULES

This section of the chapter discusses the results obtained from the alpha reliability tests conducted on the experimental children's posttreatment attitude responses pertaining to the changing of game rules. The section concludes with a discussion of the effect that the modified game programs had on the children's attitudes toward the changing of game rules.

Results of the Alpha Reliability Tests Conducted on the Posttreatment Rule Changing Attitude Responses

For the purpose of measuring the effect of the modified game programs on the experimental children's attitudes toward the changing of game rules, as indicated in Chapter III, 10 judges were asked to select a balance of statements referring to the physical, social, emotional and intellectual aspects of changing rules. After the experimental posttreatment inventory was developed the statements pertaining to the changing of rules were examined and specific items were assigned to the four previously noted categories.

The children's responses were subjected to alpha reliability procedures to determine the degree of relationship among the items within each of the four categories. A decision was made to accept only those categories of items where the alpha reliability coefficient reached .50 (Dubois, 1965). The technique used to obtain the criterion alpha reliability coefficients was similar to that previously described for analyzing the proposed pretreatment categorized items--statements with a low or a negative reliability coefficient in one category were removed and tested in one or all of the other clusters.

It was initially hypothesized that five statements pertaining to the changing of rules could be identified as physical category items. Table VI presents the original statements and shows the four items that were categorized for the final alpha reliability test. The items assigned to the physical category for the final test had an alpha coefficient of .56. As indicated in the table only one of the originally proposed physical statements was removed. The first statement in the finalized cluster referred to the "difficulty of playing games when the teacher makes rule changes," for this item it appeared that the children were thinking of the physical difficulty involved in playing games when they responded to the statement. The other statements referred to physical aspects that would be affected if rules were changed; for example, the second statement made reference to "touching the ball more often." Consequently, after scrutinizing the final cluster

Table VI

STATEMENTS IN THE PHYSICAL CATEGORY PERTAINING TO THE CHILDREN'S ATTITUDES TOWARD THE CHANGING OF GAME RULES

The Hypothesized Physical Statements

Games become too difficult to play when the teacher changes the rules.

Children get a chance to touch the ball more often while playing games when the rules are changed.

Children prefer playing games when they make rule changes because they are able to try new skills.

When the rules are changed only children who play games well like to play.

Children are very active playing games when they have the opportunity to change rules.

(alpha reliability coefficient = 0.44)

Items Included in the Physical Category After the Alpha Reliability Tests

Games become too difficult to play when the teacher changes the rules.

Children get a chance to touch the ball more often while playing games when the rules are changed.

When the rules are changed only children who play games well like to play.

Children are very active playing games when they have the opportunity to change rules.

(alpha reliability coefficient 0.56)

Note: The first and third statement in the finalized physical category were worded in a negative manner.

of items the researcher reasoned that the statements dealt with physical aspects pertaining to the changing of game rules and that the physical label applied to this category was justified.

Eight posttreatment statements pertaining to the changing of rules were initially hypothesized as social category items. These statements are presented in Table VII along with the five items that were clustered for the final alpha reliability test. The items assigned to the social category for the final test had an alpha coefficient of .60. As noted in the table, four of the original items remained in the category for the final test. An examination of the final cluster of statements indicated that three of the statements made reference to a form of social interaction, "children wanting their ideas to be used every time," "passing the ball to each other," and "spending too long changing the rules." The other two appeared to have forced the children to make a social judgement, "getting bored playing games when the teacher makes rule changes" and "not changing rules after a game has started." After scrutinizing the final cluster of proposed social items the researcher reasoned that the statements dealt with social aspects pertaining to the changing of game rules; therefore, the social label applied to this category was justified.

Five posttreatment statements pertaining to the changing of rules were initially hypothesized as emotional category items. Table VIII presents the original statements and shows the three items that were clustered for the final alpha relia-

Table VII

STATEMENTS IN THE SOCIAL CATEGORY PERTAINING TO THE CHILDREN'S ATTITUDES TOWARD THE CHANGING OF GAME RULES

The Hypothesized Social Statements

Children often take too long to change the rules and do not spend enough time playing the game.

Children would rather play games when rules do not change because they enjoy playing the same games all the time.

When children make rule changes in their games, some want their ideas to be used every time.

The teacher should not make rule changes in children's games.

Once children start to play a game, the rules should not be changed.

Children pass the ball to each other more often when they play games where the rules have been changed.

Games rules should not be changed.

Children do not mind when some of their classmates want certain rules changed in their games.

(alpha reliability coefficient = 0.23)

Items Included in the Social Category After the Alpha Reliability Tests

Children often take too long to change the rules and do not spend enough time playing the game.

When children make rule changes in their games, some want their ideas to be used every time.

Children get bored playing games when the teacher makes the rule changes.

Once children start to play a game, the rules should not be changed.

(Cont.)

Table VII Cont.

Children pass the ball to each other more often when they play games where the rules have been changed.

(alpha reliability coefficient = 0.60)

Note: All statements with the exception of the last item were worded in a negative manner.

Table VIII

STATEMENTS IN THE EMOTIONAL CATEGORY PERTAINING TO THE CHILDREN'S ATTITUDES TOWARD THE CHANGING OF GAME RULES

The Hypothesized Emotional Category

Children have fun playing games when the rules are changed.

Children feel good when the teacher makes rule changes in their games.

Children get bored playing games when the teacher makes rule changes.

Children do not like changing the rules in their games.

It is fun to play games when the teacher makes rule changes.

(alpha reliability coefficient = -0.41)

Items Included in the Emotional Category After the Alpha Reliability Tests

Children would rather play games when rules do not change because they enjoy playing the same games all the time.

It is fun to play games when the teacher makes rule changes.

Children do not mind when some of their classmates want certain rules changed in their games.

(alpha reliability coefficient = 0.45)

bility test. The items assigned to the emotional category for the final test had an alpha coefficient of .45. This low coefficient indicated that no clear relationship existed among the statements, thus they could not be labelled as emotional items. This category of statements was not used in any further statistical analysis pertaining to this study.

Two posttreatment statements pertaining to the changing of rules were initially hypothesized as intellectual category items. Table IX presents these statements and shows the three items that were clustered for the final alpha reliability test. The items assigned to the intellectual category for the final test had an alpha coefficient of .53. As shown on the table one item was added to the original cluster. The first two items in the finalized category referred to "children learning a great deal about the different ways a game can be played," and "children knowing the things that make a game more fun." It appeared conceivable that the children were thinking of their knowledge of skills when they responded to the third statement. Consequently, the researcher reasoned that these statements dealt with intellectual aspects pertaining to the changing of game rules; thus the intellectual label applied to this category was justified.

Summary

In order to measure the effect of the modified game programs on the attitudes of the experimental children toward the changing of game rules, the clusters of items identified through the alpha reliability process were used. There were four items categorized as physical, five categorized as social

Table IX

STATEMENTS IN THE INTELLECTUAL CATEGORY PERTAINING TO THE CHILDREN'S ATTITUDES TOWARD THE CHANGING OF GAME RULES

The Hypothesized Intellectual Category

Children learn a great deal about the different ways a game can be played when rules are changed.

Children can change game rules because they know the things that make a game more fun.

(reliability coefficient = 0.38)

Items Included in the Intellectual Category After the Alpha Reliability Tests

Children learn a great deal about the different ways a game can be played when rules are changed.

Children can change game rules because they know the things that make a game more fun.

Children prefer playing games when they make rule changes because they are able to try new skills.

(alpha reliability coefficient = 0.53)

Note: All statements in the intellectual category were worded in a positive manner.

and three categorized as intellectual. There were no items categorized as emotional.

The Experimental Classes' Attitudes Toward the Changing of Game Rules

Table X shows the results of the t-tests conducted on the mean scores of the two experimental classes' summated responses to the physical, social and intellectual items pertaining to the changing of game rules. It can be observed that a significant difference existed between the two classes' responses to the social items. The interpretation of the data indicated that experimental class two had a more positive attitude toward the social aspects of changing game rules. There were no other significant differences obtained from the data.

The results of the t-tests conducted on the experimental boys' and girls' mean scores are illustrated in Table XI. An examination of the table shows that there were no significant mean differences between the sexes.

EXCERPTS FROM THE INTERVIEWS

Some of the most interesting and relevant information collected in this study was obtained from the open-ended interviews with the 12 children from the experimental classes. Tables XII - XVII illustrate several of the children's responses to three of the major "items" or questions that were asked. There are no excerpts shown for the fourth question because of the lack of responses elicited by the respondents for that particular item. All of the excerpts are direct

Table X

THE EXPERIMENTAL GROUPS' RESPONSES TO THE PHYSICAL, SOCIAL AND INTELLECTUAL CATEGORIES PERTAINING TO THE CHANGING OF GAME RULES

	$\bar{X}$ Score	t Value
Physical Category		
Exp. 1	8.77	0.47
Exp. 2	8.62	
Social Category		
Exp. 1	12.9	2.18**
Exp. 2	11.81	
Intellectual Category		
Exp. 1	5.83	0.9
Exp. 2	5.54	

** $p \leq .05$ (two-tailed test)

Exp. 1 N=30
Exp. 2 N=26

Table XI

THE EXPERIMENTAL BOYS' AND GIRLS" RESPONSES TO THE PHYSICAL, SOCIAL AND INTELLECTUAL CATEGORIES PERTAINING TO THE CHANGING OF GAME RULES

	$\bar{X}$ Score	t Value
Physical Category		
Exp. : Boys	8.48	-1.31
Exp. : Girls	8.90	
Social Category		
Exp. : Boys	12.11	-1.05
Exp. : Girls	12.66	
Intellectual Category		
Exp. : Boys	5.74	0.26
Exp. : Girls	5.66	

(two-tailed test)

Exp. : Boys N=27
Exp. : Girls N=29

Table XII

ITEM 1. EXPERIMENTAL CLASS ONE

I would like to know what you thought of the games you played during the last 12 lessons?

Sex	Responses
Boys	They were interesting games, they were fun . . . some of the kids were a little rough sometimes and they hogged the ball a bit.
	The games were alright, most of the time it was good. I liked the competing . . . no one making a big fuss about winning or losing. . . . sometimes the teacher made too many rule changes and it got confusing.
	Changing the rules everyday is good because you can try new things.
	The court games were more interesting. The goal games . . . were not as good, the courts were small and we couldn't do much with the ball.
Girls	They were fun and really different, usually you play soccer or something like that.
	You can change the rules of most games and come up with a better game.
	I like it, but . . . . some games weren't really organized. . . . We were thinking about changing a game but we didn't know how.
	Sometimes [the rules were changed too often] because we would come up with some fun games and then we would have to change the rules because. . . the boys wanted to do this and the girls wanted to do that.

Table XIII

ITEM 1. EXPERIMENTAL CLASS TWO

I would like to know what you thought of the games you played during the last 12 lessons?

Sex	Responses
Boys	They were fun, they were enjoyable. They made me feel like part of the group.
	You got to play with the ball more and you usually had to run around more.
	Yes, that was good [changing rules] I didn't get to change them that much . . . we just picked someone in our group to change them.
	In one game the girls didn't want to play what we wanted to play so we made up different rules.
Girls	They were pretty good but some were kind of babyish. . . . in some of them it seemed like I was in grade three or four when I was playing them.
	Yes, it was a lot of fun [changing rules] because you got new challenges.
	The court games [were better] because they were easier to play. . . . you didn't have to plan ahead your plays.

Table XIV

ITEM 2. EXPERIMENTAL CLASS ONE

Did you prefer the teacher developing the games and changing the rules or was it better when you and your classmates had the opportunity?

Sex	Responses
Boys	Students changing the rules is better because. . . . Us kids are about the same and we know what we should do and what we shouldn't do. We can suit things to our way but the teachers may suit things to their way. Everyone had to be happy [in child oriented games] and agree on the rules in order to make it fair. . . . Everyone contributed. I don't think we did argue [in child oriented games], we talked over the rules and compromised when the rules weren't fair.
Girls	When we made up the games it took too long, so I liked the teacher making up the games. . . . When we did the goal games we argued a lot. . . . The boys wanted to do this and the girls wanted to do that. It was better when the class had the opportunity to change rules. Most of us had played sports and we liked changing the rules in our games.

Table XV

ITEM 2. EXPERIMENTAL CLASS TWO

Did you prefer the teacher developing the games and changing the rules or was it better when you and your classmates had the opportunity?

Sex	Responses
Boys	It didn't matter rules are rules no matter who changes them. I like it when our own groups changed the rules because. . . . They could make up the games the way that they wanted to play. . . . The groups had more feelings about the games. . . . Once in a while, one guy would score and another person would throw the ball at the goal . . . and try to count it as a goal.
Girls	It was better when [the teacher] did because the rules were clearer. Sometimes it took two periods to get our games going. . . . When I suggested a change the others would say it was totally wrong. Well it was fun both ways. . . . nobody cheated because if you do the game is ruined. When we had the opportunity because we got to put in our own ideas with everyone else's ideas. Everybodys ideas could be made into one big game. . .this was good because your part was in there.

Table XVI

ITEM 3. EXPERIMENTAL CLASS ONE

Do you think these past several games lessons have changed your feelings about playing games in any way?

Sex	Responses
Boys	No not at all. . . . well games are games and most of them are just fun.
	It changed my opinion about how you can experiment with rules, also about how you can use different equipment. . . . I guess these lessons have given me a feeling of freedom with games.
	No. . . . I like playing both kinds of games, in some games like baseball you have a chance to get good at something and join a team. In the other types of games you don't have to be good when rules change often.
Girls	A little, now I have more ideas about changing games, so I can change some of the games I play.
	Yes, I like them [traditional games] but I would rather have games where rules change.
	It depends on what game it is, in some games if I don't really like it I would suggest rule changes.

Table XVII

ITEM 3. EXPERIMENTAL CLASS TWO

Do you think these past several games lessons have changed your feelings about playing games in any way?

Sex	Response
Boys	Before I used to think changing rules wouldn't be any fun, but they are fun! Probably, I don't really like games like basketball, maybe, if you played games like that and you could change rules you could make it harder or easier. I like games where rules barely ever change. . . . I guess I prefer games like hockey best of all.
Girls	When you are playing games like those, [where rules can change] you learn how to cooperate with your friends and be a good sport. No, my feelings about games and changing rules haven't changed. When you change rules it usually gives someone an advantage and another person a less advantage. Yes, at first I wasn't very keen about playing games where you can change rules, but now I think they are pretty good because you learn new things.

quotations taken from the interview transcriptions. They were selected as representative of the answers to the questions and their respective probes.

DISCUSSION OF INTERVIEW RESPONSES

The overall results obtained from the interviews indicated that the majority of respondents liked playing modified games where rules could be changed. It would be an oversimplification however, to maintain that most of the children's attitudes toward playing the games were similar. Both similarities and differences were exhibited with respect to several probing questions.

There was considerable variation regarding what the children liked and disliked most about the games. Some of the respondents felt that the rules were often changed for inappropriate reasons, for example; when a good game was developed, many would have liked the opportunity to play it longer. Several of the children preferred playing the court games. A few of them indicated that the playing areas for the goal games were too small and this decreased their opportunities for manoeuvring the ball. Only three children suggested a preference for the goal games and two of those were boys. A further investigation of the boys' general information questionnaires indicated that the two boys had previously played several goal games in organized leagues outside of school. This previous experience may have influenced their responses during the interview.

In reference to making changes to game rules, seven children, five boys and two girls suggested that they preferred making their own rule changes. The boys stated that they enjoyed changing rules in spite of the problems that arose. They also liked discussing the games with their groups because they believed the discussions resulted in better ideas. In contrast, when the teacher altered the game structures the children felt that their ideas were not considered. Some of the students felt that this decreased their learning experiences and personal satisfaction. Three girls strongly supported the teacher developing the games. They felt that the teacher's games did not take as long to get started, and when he altered the rules it eliminated the conflicts that often evolved between the boys and girls.

The fact that more boys than girls preferred making their own rule changes is consistent with the findings of Lever (1976). She maintained that boys can resolve disputes more effectively than girls and continue playing their games.

Eight of the children felt that their experience playing the modified games had favourably altered their opinions toward games to some degree. Four students indicated that they liked playing both types of games, the modified as well as the traditional. They suggested the modified games gave them the opportunity to experiment with rules and to try different equipment. A few children attempted to rationalize the advantages of both types of games. They felt that the traditional games like basketball had their place because a person could join a team and play against other good teams. The modified games were also good because they enabled children to play a variety of games both in and out of school. Peake's (1974) concept of variation in children's games might be applicable here. "Children in elementary school . . . need variety provided by new or different games but not to the complete exclusion of traditional games" (p. 44).

All of the respondents indicated that they understood the statements on the posttreatment inventory. Two respondents said that a few times they had a problem deciding whether they agreed or disagreed with a statement. When asked if they would like to make any further comments about the games only two people responded, one boy stated:

> The sportsmanship of the people involved in the games was quite good. No one went off and pouted in a corner when others wanted different rules.

GENERAL DISCUSSION OF THE RESULTS

In order to conduct this exploratory study of children's attitudes toward the playing of games and rule changes, the researcher selected three classes of grade six children. The selection of this age group was considered crucial as children of approximately 11 or 12 years of age have gained considerable experience in playing games involving physical skillls. Furthermore, unlike younger individuals they no longer believe that game rules should not be changed; they realize that rules can be altered to meet existing environmental conditions and that they must be changed by the mutual agreement of their peers (Piaget, 1965). This attitude toward rules can be further substantiated by comments made by several of the children interviewed in this investigation; for example, one of the girls (Table XII) stated that, "You can change the rules of most games and come up with a better game."

It is of particular importance to note that no significant differences could be determined between the treatment groups regarding their attitudes toward the physical or the social aspects of playing games. As previously indicated this was partially due to the lack of homogeneity of variance that existed among the data. It was conceivable that the children were thinking specifically of the physical skills involved in playing games when they responded to the items categorized as physical. A possible indication of this factor was given by one of the children (Table XIII) when he referred to the equipment handling skill of playing with a ball. Therefore, the inclusion of more specific items referring directly to physical skill, might have resulted in a higher alpha reliability coefficient. Furthermore, perhaps a more appropriate heading for this category might have been "physical skill."

Similarly, the children may have been reflecting their familiarity with games when they responded to the items pertaining to the playing of games that were categorized as social. An examination of Table II verifies that the children's previous experience of participating in games may have influenced their responses to these items; for example, the second item in the finalized category referred to children playing floor hockey and basketball rather than new games that they make up themselves. This statement required the children to reflect on their previous games experience; thus, the inclusion of more specific items referring directly to game familiarity, might have resulted in a higher alpha reliability coefficient. Moreover, perhaps a more appropriate heading for this category might have been "game familiarity."

In order to opportunize the chances of obtaining significant results further studies may extend the treatment period, block the subjects upon an independent variable such as skill in games, and limit the subjects of the study to one sex.

The two-way analysis of variance did not find a significant change in the children's attitudes toward the physical or the social aspects of playing games. This indicated that the treatment conditions did not produce a state of incongruity in the children's attitudes toward these aspects. As Osgood and Tannenbaum (1955) have indicated, a state of incongruity is necessary in order to bring about any change in an individual's attitudes. However, it is interesting to note that eight of the interviewed children who played the modified games where rules could be changed, stated that their attitudes toward games had been altered to some degree. This phenomena illustrated the importance of the interview technique utilized by the researcher. It verified Good and Scates (1954) assertion that attitude research in the usual experimental form may not reveal an average change in the subjects' opinions. An interview on the other hand may provide significant explanation regarding the results or it may point to new avenues and methods for further research. In this study it appeared that the majority of experimental children favoured the modified games. It was possible that the lack of homogeneity of variance masked any true differences that might have actually existed between the groups.

Another important point indicated by the results of the analysis of variance was that a significant difference existed between the boys and the girls with respect to their attitudes toward the social aspects of playing games. This result may have been caused by the children thinking of their familiarity with the games rather than of the broader factors related to the social aspects of games. The data collected on the general information questionnaires indicated that the boys had more experience playing games and they were more familiar with a variety of different games. Therefore, it is quite probable that they were more concerned with the strategies and skill techniques involved in playing games than were the girls. On the other hand, the girls seemed to have emphasized their desire of getting games started as quickly as possible without wasting any time. They were concerned with the development of games, which were less complicated than the boys', where the rules could be quickly organized and everyone could begin playing with very little confusion occurring. This need to establish the basic structure of a game before developing more complicated playing rules and strategies may have resulted from the girls' lack of familiarity with a variety of games, and their insufficient knowledge of the internal structures that can be changed in a game. This feeling was specifically verbalized by one of the girls during the interview (Table XII) when she stated that, "some games weren't really organized. . . . We were thinking about changing a game but we didn't know how."

A final point of major interest was apparent within the emotional categories pertaining to the playing of games and the changing of game rules. The items in these categories did not reach the required alpha reliability coefficients considered necessary for them to be used in this study. It appeared that the items were unacceptable because the children were not able to differentiate between the emotional statements and the statements in the other categories. An example of this possibility can be seen by examining the following item taken from the emotional category pertaining to the changing of game rules (Table VIII), "Children would rather play games when rules do not change because they enjoy playing the same game all the time." It is conceivable that the children were thinking of their familiarity with games rather than with their feelings toward playing games when rules do not change.

To conclude this discussion the researcher, on the basis of the findings of the present study, considers it mandatory that additional attention be given to the development of a more sensitive instrument to measure all of the categories previously mentioned. Particularly, it is apparent that a great deal of work needs to be directed toward the emotional area.

CHAPTER V

SUMMARY AND CONCLUSIONS

SUMMARY

This chapter presents a brief resume of the purpose and design of the study, and succintly reviews the major findings that were earlier reported in detail.

The main purpose of this investigation was to conduct an exploratory examination of the attitudes of grade six children toward the playing of games involving physical skills, and toward rule changes that were made by the teacher or the children in these games. The subsidiary purpose of the investigation was twofold: first, to see if any changes occurred in the attitudes of grade six children as a result of playing modified games wherein rule changes were permitted. Second, to see if there were any sex differences between the children with respect to their attitudes toward the playing of games, as well as toward rule changes that were made to modified game structures.

In order to conduct this study the following instruments were developed by the researcher. First, rule guidelines were compiled for modified court games and modified goal games. Second, two attitude inventories were constructed, one dealing with children's attitudes toward the playing of games and the other with children's attitudes toward the playing of games and rule changes; the Likert Method was used to score the inventories. Third, an open-ended interview schedule was designed to supplement the attitude inventories. Lastly, a general information questionnaire was devised to determine the children's previous experience playing games within organized sports leagues or clubs, as well as in their school's intramural program.

The subjects used in this study consisted of 81 grade six children. A control class comprised 25 children and two experimental classes, from another school, consisted of 30 and 26 children respectively.

Prior to the treatment period all three classes were given a pretreatment attitude inventory entitled, "Children's Attitudes Toward the Playing of Games." For 12 consecutive lessons the classes participated in the treatment phase of the investigation. The control condition included two traditional games taught by the control teacher who used the command style of teaching. The experimental conditions involved the experimental classes participating in two modified goal games and two modified court games. One game of each type was presented with the rules being periodically changed by the teacher, and the other of each type was developed from rules selected by the children. Each part of the experimental procedure, the teacher or the children making rule selections, lasted for three physical education lessons. After the treatment period had ended each class was given a posttreatment attitude inventory. The control class was readministered the same inventory as they had previously received. The experimental classes were given the inventory entitled, "Children's Attitudes Toward the Playing of Games and Rule Changes." When the children had finished the inventories they were asked to complete the general information questionnaire. During the week following the treatment period interviews were conducted with six boys and six girls, three of each being randomly selected from both experimental classes.

To determine whether the statements on the pretreatment attitude inventory could be grouped into any of the following categories: physical items, social items or emotional items, alpha reliability tests were conducted. After the alpha tests were completed the researcher scrutinized the statements in each category in order to justify the physical, social and emotional labels applied to the statements. A similar procedure was followed for the statements on the experimental posttreatment inventory pertaining to the changing of game rules, in this case an additional category, intellectual items, was included. A decision was made to accept only those categories of items where the alpha reliability coefficient reached .50.

To statistically analyze the children's attitude responses toward the playing of games a two-way analysis of variance was performed on the mean scores of accepted statement categories. This was done to determine significant differences between the Treatment Groups x Sex with repeated measures.

The Newman-Keuls statistical procedure was utilized to compare the mean scores of the three groups. A t-test analysis, conducted on the responses obtained from the accepted statement categories pertaining to the children's attitudes toward the changing of game rules, was used to examine the mean differences between the two experimental groups and between the experimental boys and the girls. In all cases the level of significance was chosen at 5 percent.

The results indicated that several statements on the pretreatment inventory could be grouped into either a physical or a social category. When the pre and posttreatment inventories were analyzed no significant differences were found between the mean scores of the three treatment groups regarding their attitudes toward the physical or the social aspects of playing games. However, there was a significant difference between the mean score of the boys and the mean score of the girls regarding the social items. The girls' mean score showed a more positive attitude toward the social aspects of playing games.

The analysis of the pre and posttreatment inventory data revealed that no changes had occurred in the attitudes of the three groups of children regarding the physical or the social aspects of playing games.

The investigation revealed that several statements on the experimental posttreatment inventory pertaining to the changing of game rules could be grouped into a physical, social or intellectual category. The analysis of the data obtained for the social category indicated that a significant difference had occurred between the mean scores of the two experimental groups. The children in the second group had a more positive attitude toward the social aspects of changing game rules. There were no significant differences between the mean scores of the experimental boys and the mean scores of the experimental girls for any of the rule changing categories.

The majority of the 12 experimental children who were interviewed stated that they liked playing modified games where rules could be changed. Five boys and two girls preferred making their own rule changes to modified games. Eight of the respondents felt that their experience playing the modified games had favourably altered their opinions toward the playing of games. Four of the respondents indicated that they liked playing traditional games, as well as the modified games.

CONCLUSIONS

Within the limitations of this exploratory study it should be stressed that the following conclusions, except those related to the children's interview responses, may only be tentative in nature. All concluding statements were formulated on the basis of:

(1) The pre and posttreatment attitude inventories administered to a control class and two experimental classes of grade six children.

(2) The interviews conducted with 12 children from the ex-

perimental classes.

(A) Several items on the pre and posttreatment inventories pertaining to the children's attitudes toward the playing of games were grouped into a physical or a social category. There were no significant differences found between the three classes of children with respect to their attitudes toward the physical or the social aspects of playing games. There was a significant difference between the boys and the girls from all three classes regarding their attitudes toward the social aspects of playing games. The girls indicated a more positive attitude toward the social items than did the boys.

(B) Participation in the modified game programs that permitted rules to be altered did not change the attitudes of the children toward the physical or the social aspects of playing games.

(C) Several items on the experimental posttreatment inventory pertaining to the changing of game rules were grouped into a physical, social, or intellectual category. There was a significant difference between the two experimental classes with respect to their attitudes toward the social items. The children in the second class had a more positive attitude toward the social aspects of changing game rules. No significant sex differences were observed for the experimental children regarding their attitudes toward the rule changing categories.

(D) The majority of the experimental children interviewed in this study indicated that they like playing modified games where rules could be changed. There were more boys than girls who preferred making their own rule changes to the game structures. Most of the children felt that their attitudes toward the playing of games had been favourably altered as a result of playing the modified games.

The experimental children's responses to the interview questions are pertinent to the teaching of games in elementary schools. The responses indicate that grade six children can utilize the problem-solving approach stressed by many educators and that they can develop unique and imaginative games. In this investigation there were more boys than girls who preferred making their own rule changes. One determining factor of this may have been the presentation of the game structures. It appears essential that the presented game structures should be designed for the decision-making ability of the children to prevent confusion and the need to spend too much time developing a game.

The researcher contends that this type of activity is a worthwhile experience for all upper elementary children. When the activity is appropriately organized it gives the children an opportunity to work with their classmates to develop games through the process of sharing ideas. This procedure is conducive to the learning of new physical skills and game playing strategies.

In accordance with the findings of several researchers previously mentioned in this study (Peake, 1974, for example), the interview responses illustrate that grade six children like variety in their game activities. They want to master the details of the rules of different games and follow them with the mutual agreement of their peers. Therefore, this investigation supports the premise that, instead of solely using traditional games in the elementary school environment, rule alterations should often be introduced to these games structures in an attempt to make the playing of games a more meaningful and success-oriented experience for children, thus ensuring more versatile and content players. Furthermore, children should be given ample opportunities to make their own alterations to these game structures.

RECOMMENDATIONS FOR FURTHER RESEARCH

1. Repeat this study:
    - (a) with the treatment conditions lasting for a longer period of time and with larger numbers of children;
    - (b) with children of different age groups; and
    - (c) using rule guidelines for different modified games structures.
2. Conduct similar studies:
    - (a) comparing the attitudes of urban children toward the playing of games and rule changes with those of rural children.

(b) comparing the attitudes of children from different socioeconomic backgrounds.

3. Develop a suitable instrument to measure children's attitudes toward the emotional aspects of playing games and changing rules.

4. Conduct a comprehensive study examining the impact that different teaching styles have on children's attitudes toward playing games and changing rules.

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APPENDIX A

REQUEST MADE TO JUDGES AND THE ORIGINAL STATEMENTS FROM WHICH THE FINAL ATTITUDE INVENTORIES WERE DEVELOPED

REQUEST TO JUDGES

Please find enclosed two proposed lists of statements dealing with (1) children's attitudes towards the playing of games, and (2) children's attitudes towards the changing of games rules. From the first list I intend to use between 10 and 15 statements and from the second I intend to use between 15 and 20 items for my study.

Among those items selected from the second list I would like to achieve a balance of statements concerning the physical, social, emotional and intellectual aspects of changing modified games rules. Also, I want to utilize some statements that specifically refer to either the teacher or children changing rules. Each one of the selected statements will be randomly positioned in the final draft of the inventories.

For the purpose of the study I would appreciate your time and effort in judging the two lists of items enclosed and indicating whether, in your opinion, a statement should be either (1) definitely included, (2) possibly included, or (3) not included in a study of this nature.

I would also appreciate your efforts in rewording any items that appear ambiguous or adding any statements that, in your opinion should be included.

Instructions

In the column provided on the left-hand side of this paper please indicate for each attitude statement one of the following:

1. statement should definitely be included
2. statement may possibly be included
3. statement should not be included.

Indicate your choice by placing either 1, 2, or 3 in the column beside each statement. Please make changes or add statements where necessary.

Children's Attitudes Toward the Playing of Games

1. Children get a lot of exercise when they play games.
2. Children can try new skills when they play games.
3. Playing games does not make children healthy and physically fit.
4. Playing games helps children learn about how they move.
5. Playing games is only good for children who are good at sports.
6. Children want to "hog" the ball all the time when they play games.
7. Children would rather play floor hockey and basketball than play new games which they develop themselves.
8. Playing well is more important than winning a game.
9. Children prefer playing the same games all the time.
10. Playing games helps children learn how to cooperate with others.

11. Children should make up the rules for their games.
12. Children argue a lot about obeying the rules of a game.
13. Playing games helps children understand the feelings of others.
14. Children feel great when they play games.
15. It is no fun to play games during physical education class.
16. Children enjoy helping their friends outside of school make up their own games.
17. Playing games makes a player hate the other team.
18. Children get mad when their opponents win a game.
19. It is fun to play games that are organized by adults.
20. Children cheat when they play games.
21. Children enjoy playing games with their classmates.
22. It is not much fun to play new games organized by the teacher.

Children's Attitudes Toward the Changing of Games Rules

1. Children are very active playing games when they have the opportunity to change the rules.
2. Children get a chance to touch the ball more often while playing games where the rules are changed.
3. When children play games where rules are changed, it often takes too long to change the rules and not enough time is spent playing the game.

4. Children prefer playing games when they make rule changes because they are able to try new skills.
5. Children get a lot of exercise while playing games when the teacher makes the rule changes.
6. Only children who play games well, prefer playing games when the rules are changed.
7. Children want to "hog" the ball all the time when they play games where the rules do not change.
8. Children pass the ball to each other more often when they play games where the rules are changed.
9. Once children start to play a game, the rules should not be changed.
10. Children should make the rule changes in their games.
11. Children would rather play games like floor hockey and basketball where rules do not change than play games when rules are changed.
12. Children do not mind when some of their classmates want certain rules changed in their games.
13. The teacher should not make rule changes in children's games.
14. It is good for both boys and girls to play games when the rules are changed.
15. Games rules should not be changed.
16. When children make rule changes in their games, some want their ideas to be used every time.
17. Children who participate in games where the rules are changed are good "sports".

18. Children prefer playing games when rules do not change because they enjoy playing the same game all the time.

19. It is fun to play games when the teacher makes rule changes.

20. Playing games when the rules are changed helps children feel more successful.

21. Children get bored playing games when the rules are not changed.

22. Children feel like cheating when they play games where rules do not change.

23. Children have fun playing games when the rules are changed.

24. When the teacher makes rule changes in a game, it makes children feel successful.

25. Children like changing the rules in their games.

26. Children have many ideas which they can use as rule changes in their games.

27. Children learn a lot about the different ways a game can be played when rules are changed.

28. A few rules can be used to start a game and others can be added or changed later.

29. Children are capable of changing games rules because they know the things that make a game more fun.

30. Children do not understand how rules control a game, therefore, they should not make changes to the rules.

31. When the teacher changes the rules, a game becomes more challenging.

APPENDIX B

PRELIMINARY INVENTORIES (RELIABILITY TEST INVENTORIES) AND EXPERIMENTAL CLASSES' POSTTREATMENT INVENTORY

Children's Attitudes Toward the Playing of Games and Rule Changes

Demographic Information

Before doing anything else, please use your pencil to fill in the following information on your answer sheet:

1. Your Sex

EXAMPLE:

S
E
X
●
Ⓕ

2. Your Birth Date

EXAMPLE:

	BIRTH DATE			
MO.	DAY		YR.	
Jan. ○				
Feb. ●	0	6	6	7
Mar. ○	●	⓪	⓪	⓪
Apr. ○	①	①	①	①
May ○	②	②	②	②
Jun. ○	③	③	③	③
Jul. ○		④	④	④
Aug. ○		⑤	⑤	⑤
Sep. ○		●	●	⑥
Oct. ○		⑦	⑦	●
Nov. ○		⑧	⑧	⑧
Dec. ○		⑨	⑨	⑨

Inventory Directions

The following statements try to find out how grade six children feel toward the playing of games, and games rule changes that are made by the teacher or children.

The statements have no right or wrong answers. Please answer as you feel. With the answer sheet that is given to you simply use your pencil to fill in the circle that contains the number which best tells how you feel about the statement. Your answers will not affect your grade in any course.

Also, if you do not understand a statement please mark an "X" in the square to the left of the statement, and circle the word or words that you do not understand.

EXAMPLE:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Children like to eat hot dogs because they taste good.	1	2	3	4

(In responding to this type of statement, first try to decide whether you agree with it or whether you disagree with it. Then decide whether you strongly agree, agree OR strongly disagree, disagree.)

Answer Sheet:	A	B	C	D	E
1.	①	●	③	④	⑤

Please do not fill in circle number 5 (E ⑤) for any of the statements. If you are not sure how to mark your answer sheet please ask the person who gave you the sheet.

TURN THE PAGE AND BEGIN

PART I

Children's Attitudes Toward the Playing of Games

		Strongly Agree	Agree	Disagree	Strongly Disagree
☐	1. It is fun to play games during physical education class.	1	2	3	4
☐	2. Playing games helps children learn how to cooperate with others.	1	2	3	4
☐	3. Children like playing the same games all the time.	1	2	3	4
☐	4. Children should make up the rules for their games.	1	2	3	4
☐	5. Children enjoy helping their friends make up their own games when they play outside of school.	1	2	3	4
☐	6. Children would rather play floor hockey and basketball than play new games that they make up themselves.	1	2	3	4
☐	7. Children get very angry when their opponents win a game.	1	2	3	4
☐	8. Children get plenty of exercise when they play games.	1	2	3	4
☐	9. Playing games is only good for children who are good at sports.	1	2	3	4
☐	10. Playing well is more important than winning a game.	1	2	3	4
☐	11. Many children want to hog the ball all the time when they play games.	1	2	3	4
☐	12. Children can try new skills when they play games.	1	2	3	4

PART II

Children's Attitudes Toward the Changing of Games Rules

			Strongly Agree	Agree	Disagree	Strongly Disagree
☐	13.	Children would rather play games when rules do not change because they enjoy playing the same games all the time.	1	2	3	4
☐	14.	Children feel good when the teacher makes rule changes in their games.	1	2	3	4
☐	15.	Once children start to play a game, the rules should not be changed.	1	2	3	4
☐	16.	Children are very active playing games when they have the opportunity to change rules.	1	2	3	4
☐	17.	When children make rule changes in their games, some want their ideas to be used every time.	1	2	3	4
☐	18.	Children often take too long to change the rules and do not spend enough time playing the game.	1	2	3	4
☐	19.	Children prefer playing games when they make rule changes because they are able to try new skills.	1	2	3	4
☐	20.	Games become too difficult to play when the teacher changes the rules.	1	2	3	4
☐	21.	When the rules are changed only children who play games well like to play.	1	2	3	4
☐	22.	Children get bored playing games when the teacher makes rule changes.	1	2	3	4

			Strongly Agree	Agree	Disagree	Strongly Disagree
☐	23.	Children get a chance to touch the ball more often while playing games when the rules are changed.	1	2	3	4
☐	24.	Games rules should not be changed.	1	2	3	4
☐	25.	Children learn a great deal about the different ways a game can be played when rules are changed.	1	2	3	4
☐	26.	The teacher should not make rule changes in children's games.	1	2	3	4
☐	27.	Children can change games rules because they know the things that make a game more fun.	1	2	3	4
☐	28.	Children do not mind when some of their classmates want certain rules changed in their games.	1	2	3	4
☐	29.	Children pass the ball to each other more often when they play games where the rules have been changed.	1	2	3	4
☐	30.	Children have fun playing games when the rules are changed.	1	2	3	4
☐	31.	It is fun to play games when the teacher makes rule changes.	1	2	3	4
☐	32.	Children do not like changing the rules in their games.	1	2	3	4

Children's Attitudes Toward the Playing of Games and Rule Changes

Demographic Information

Before doing anything else, please use your pencil to fill in the following information on your answer sheet:

1. Your Sex

EXAMPLE:

S E X
[✓ Ⓜ]
Ⓕ

2. Your Birth Date

EXAMPLE:

	BIRTH DATE			
MO.	DAY		YR.	
Jan. ○				
Feb. ●	0	6	6	7
Mar. ○	[✓ ⓪]	⓪	⓪	⓪
Apr. ○	①	①	①	①
May ○	②	②	②	②
Jun. ○	③	③	③	③
Jul. ○		④	④	④
Aug. ○		⑤	⑤	⑤
Sep. ○		[✓ ⑥]	[✓ ⑥]	⑥
Oct. ○		⑦	⑦	[✓ ⑦]
Nov. ○		⑧	⑧	⑧
Dec. ○		⑨	⑨	⑨

Inventory Directions

The following statements try to find out how grade six children feel toward the playing of games, and games rule changes that are made by the teacher or children.

The statements have no right or wrong answers. Please answer as you feel. With the answer sheet that is given to you simply use your pencil to fill in the circle that contains the number which best tells how you feel about the statement. Your answers will not affect your grade in any course.

EXAMPLE:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Children like to eat hot dogs because they taste good.	1	2	3	4

(In responding to this type of statement, first try to decide whether you agree with it or whether you disagree with it. Then decide whether you strongly agree, agree OR strongly disagree, disagree.)

Answer Sheet:

	A	B	C	D	E
1.	①	[✓ ②]	③	④	⑤

Please do not fill in circle number 5 (E ⑤) for any of the statements. If you are not sure how to mark your answer sheet please ask the person who gave you the sheet.

TURN THE PAGE AND BEGIN

Children's Attitudes Toward the Playing of Games and Rule Changes

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Children have fun playing games when the rules are changed.	1	2	3	4
2. Children often take too long to change the rules and do not spend enough time playing the game.	1	2	3	4
3. Children would rather play games when rules do not change because they enjoy playing the same games all the time.	1	2	3	4
4. Children learn a great deal about the different ways a game can be played when rules are changed.	1	2	3	4
5. Games become too difficult to play when the teacher changes the rules.	1	2	3	4
6. Children feel good when the teacher makes rule changes in their games.	1	2	3	4
7. Children get a chance to touch the ball more often while playing games when the rules are changed.	1	2	3	4
8. Children would rather play floor hockey and basketball than play new games that they make up themselves.	1	2	3	4
9. Many children want to hog the ball all the time when they play games.	1	2	3	4
10. Playing games helps children learn how to cooperate with others.	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
11. Children can change games rules because they know the things that make a game more fun.	1	2	3	4
12. Children get very angry when their opponents win a game.	1	2	3	4
13. When children make rule changes in their games, some want their ideas to be used every time.	1	2	3	4
14. Children get bored playing games when the teacher makes rule changes.	1	2	3	4
15. It is fun to play games during physical education class.	1	2	3	4
16. Children should make up the rules for their games.	1	2	3	4
17. Children like playing the same games all the time.	1	2	3	4
18. Children enjoy helping their friends make up their own games when they play outside of school.	1	2	3	4
19. Children prefer playing games when they make rule changes because they are able to try new skills.	1	2	3	4
20. Children do not like changing the rules in their games.	1	2	3	4
21. Playing games is only good for children who are good at sports.	1	2	3	4
22. The teacher should not make rule changes in children's games.	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
23. Children can try new skills when they play games.	1	2	3	4
24. When the rules are changed only children who play games well like to play.	1	2	3	4
25. Playing well is more important than winning a game.	1	2	3	4
26. Once children start to play a game, the rules should not be changed.	1	2	3	4
27. Children pass the ball to each other more often when they play games where the rules have been changed.	1	2	3	4
28. Children are very active playing games when they have the opportunity to change rules.	1	2	3	4
29. It is fun to play games when the teacher makes rule changes.	1	2	3	4
30. Children get plenty of exercise when they play games.	1	2	3	4
31. Games rules should not be changed.	1	2	3	4
32. Children do not mind when some of their classmates want certain rules changed in their games.	1	2	3	4

APPENDIX C

GUIDE TO THE SCHEDULE AND INTERVIEW SCHEDULE

Schedule Guide

Procedure

After entering the room the child will be thanked for coming to the interview and will be invited to sit down in a chair a few feet from the interviewer, and make himself comfortable.

The interviewer will mention that he enjoyed watching the games lessons and was particularly interested in seeing the students' and teacher's games develop. It will be indicated to the child that although he has answered some questions there are others which are important.

At this point, the child will be asked to listen to a short introduction explaining the purpose of the interview.

Introduction to the Interview (To be read to each child)

Before I begin asking you questions I would like to tell you something about my work. I am attempting to find out how children feel about playing games and having their teacher or themselves change the rules in their games.

I would like to record our talk as it would be impossible for me to remember or write down everything you say. I will not use your name and I will be the only person to hear your statements, so please feel free to make any comments you wish, as I am very interested in your comments.

After we have talked, I would be pleased to answer any questions you may have concerning the past 12 games lessons.

Interview Schedule

Item 1

I would like to know what you thought of the games you played during the last 12 lessons?

Probe 1: Did you like playing the games? (Probe for reasons).

Probe 2: What did you like most about playing the games? (Probe: Why - Did you like having an opportunity to change the rules?)

Probe 3: What did you dislike most? (Probe: Why - Did you think the rules were changed too often? If answer was "yes" - When did this happen?)

Probe 4: Which type of game did you like most, the court games or the goal games? (Probe for reasons particularly with regard to the rules).

Item 2

Did you prefer the teacher developing the games and changing the rules or was it better when you and your classmates had the opportunity?

Probe 1: Why do feel that way? (Probe for reasons).

Probe 2: Would you like it if that sort of thing was done more often during games lessons in physical education? (Probe for reasons - Why might it be a good idea to change rules?)

Probe 3: Did the people in your groups argue a lot when you and your classmates changed the rules? (Explain your answer - Why did this happen? When did it happen most? How was it resolved?)

Probe 4: Did everyone help when your groups changed the rules? (Probe for reasons - Why did this happen? How often did it happen?)

Probe 5: Did any children cheat in the games when your groups changed the rules? (Explain your answer - Why did this happen? If answer was "yes" - How often did it happen and how could it have been avoided?)

Probe 6: Did any children cheat when the teacher changed the rules? (Explain your answer - Why did this happen? If answer was "yes" - How often did it happen and how could it have been avoided?)

Item 2 contd.

Probe 7: Did you find that you were often standing and watching other players more involved in playing the games? (Explain your answer - Why did this happen? If answer was "yes" - How could it have been avoided?)

Probe 8: Did you have the chance to handle the ball (object) very often while playing the games? (Explain your answer - Why did this happen? If answer was "no" - When did it happen most? Would rule changes have helped?)

Item 3

Do you think these past several games lessons have changed your feelings about playing games in any way?

Probe 1: (Depending on the answer given above) Why do you think your feelings have changed - or have not changed? (Probe for reasons).

Probe 2: Do you think that being given the chance to change the rules in games has changed your feelings in any way? (Probe for explanation - Why?)

Probe 3: Do you prefer playing games like basketball where rules hardly every change? (Probe for reasons).

Item 4

Would you like to make any comments about the statements you answered for me on the inventory concerning your feelings toward playing games and making rule changes?

Probe 1: Were the statements easy to understand?

Probe 2: Were there some things I didn't ask you that you feel are important? (Probe: Are you sure? If answer was "yes" - Probe for explanation).

APPENDIX D

RULE GUIDELINES PERTAINING TO THE MODIFIED GAME STRUCTURES

RULE GUIDELINES:

MODIFIED GOAL GAME STRUCTURE

General Description

This game structure involves two teams; one using the skills of passing, running, and shooting to move an object towards a goal or goal-line, for the purpose of scoring goals; the other using defensive skills such as intercepting passes and guarding opponents in order to gain possession of the object.

Rules

Section I: Area of Play

Boundaries: 1. The playing area must form either:

(i) a square
(ii) a rectangle

Note: The parameter of the playing area may be of any dimensions provided there is ample room for all groups to participate in a goal game activity.

Zone Markings: 1. A line must divide the playing area into two equal halves.

2. An "X" may be marked a reasonable distance in front of each goal for the purpose of taking penalty shots.

Goal Crease: 1. The goals must have a crease in the shape of one of the following:

(i) a square
(ii) a rectangle
(iii) a semi-circle
(iv) a circle (positioned so that players can move behind the goal).

2. The crease may be of any dimension provided both teams are the same and there are at least five feet between the outside line of the crease and the center of the playing area.

Note: The crease is necessary as a safety precaution to protect the goalkeeper, therefore, it must be large enough to allow the goalkeeper ample room to guard his goal. If there are no goalkeepers, the crease should still be large enough to ensure that players face a desirable amount of challenge when attempting to score.

Section II: Equipment

Objects: 1. One of the following must be used as the "manoeuvrable object":

- (i) a round or oval ball between two and eight inches in diameter
- (ii) a bean bag
- (iii) a quoit (consisting of either rubber or felt).

Implements: 1. One of the following implements may be used by each player:

- (i) a straight stick (consisting of either wood or plastic)
- (ii) a curved stick (consisting of either wood or plastic)
- (iii) a plastic scoop.

Note: The teacher must make sure that the object and implements used in a game are suitable with regard to safety and the playing rules selected.

Goals: 1. Each team must only have one goal and that goal must be identical to their opponents.

2. One of the following types of goals are permitted:

- (i) an outline marked on a wall.
- (ii) a vertical rectangular, square or circular piece of solid material, for example; a piece of plywood, a bench (or benches).
- (iii) a vertical rectangular, square or circular device constructed so that an object can pass through its inside area, for example; a floor hockey goal or an indoor soccer goal frame.
- (iv) two upright stands positioned a distance away from each other and standing on a goal-line, for example; two traffic cones positioned on a straight line.

(v) a horizontal hoop supported on pylons.

3. The goals must lie on or near opposite ends of the playing area.

Section III. Number of Players

1. Each team is limited to one of the following numbers:

   (i) three
   (ii) four
   (iii) five
   (iv) six.

Note: The above rule must be kept at all times to ensure that players participate in all changes made to their specific game.

2. Both teams must always have an equal number of participants actively involved in a game, unless a rule is introduced removing a player who commits a foul (a penalty).

Section IV: Time Period

Length of Game:

1. The length of a game may be one of the following:

   (i) five minutes
   (ii) ten minutes
   (iii) fifteen minutes.

Notes: The above rule should not be a major concern during the lessons.

Changing Ends:

1. A decision must be made regarding whether or not the teams will change ends. If a change is desired it must occur at one of the following intervals.

   (i) when half of the time period has expired
   (ii) when five and ten minutes have expired (two changes in a 15 minute game)
   (iii) after one team has scored two goals
   (iv) after the total number of goals scored by both teams is four

Section V: Movement of Object

Object's Behaviour:

1. The object must move in one or any combination of the following ways:

(i) bounce along the floor
(ii) maintain its motion in the air
(iii) slide or roll along the floor.

Player's Behaviour: 1. When the players are not using implements, one or any combination of the following actions must be used to move the object:

(i) an underhand throw
(ii) an overhand throw.

Note: Players may use either one or two hands to complete a throw, depending on the size of the object.

(iii) a dribbling action with one hand while the player is standing still or moving, also the player will be permitted to switch hands at any time while the object is bouncing
(iv) a kicking action
(v) a dribbling action using the feet while the player is moving.

Note: Special safety rules are needed if the children are permitted to use both their hands and feet near the floor.

2. When the players are using implements one of the following actions must be used:

(i) a striking or pushing action (including stickhandling)
(ii) a throwing action, for example; sending the object from a scoop.

Keeping Possession: 1. One of the following is permitted when a player is in possession of the object:

(i) only one step before the object must be released.
(ii) only three steps before the object must be released.
(iii) to control the object for five seconds while moving or remaining stationary before it must be released.
(iv) to control the object for ten seconds while moving or remaining stationary before it must be released.
(v) to run or remain stationary with the object for an indefinite period of time.

Note: When a player is permitted to keep possession of the object for an indefinite period of time, the opposition should be permitted to use the two handed touch rule (see rule two concerning "Players Relation with Opposition").

Player's Relationship With Teammates:

1. A player is permitted to send the object to a teammate by using one or any combination of the following passes:
   - (i) a forward pass
   - (ii) a backward pass
   - (iii) a lateral pass.
2. A team must do one of the following before a goal can be scored:
   - (i) complete at least one, two, or three passes
   - (ii) complete at least one pass in their own zone
   - (iii) complete a pass to every member of the team.

Note: A pass to or from a goalkeeper inside his crease will not count.

Scoring a Goal:

1. One of the following must be completed before scoring a goal:
   - (i) the object must strike a horizontal target
   - (ii) the object must pass over a goal-line
   - (iii) the object must enter a horizontal device, for example; a floor hockey goal
   - (iv) the object must pass through a hoop.

Note: The option chosen from above will depend on the type of goal selected.

Player's Relationship With Opposition:

1. A defensive player may attempt to gain possession of the object while, it is being manoeuvred by an opposing player, passed, or sent towards a goal.

   To gain possession of the object, the defensive player may use one of the following:
   - (i) an implement; when that specific piece of equipment is permitted in a game
   - (ii) hand; when dribbling with the hands or throwing is permitted

(iii) feet; when dribbling with the feet or kicking is permitted.

Note: The above rule does not apply when the object is permitted to be carried in a player's hands.

2. When an offensive player is permitted to carry the object in his hands an additional rule may be introduced. This rule states that a defensive player may attempt to stop the object carrier by simultaneously touching him with two hands. When a defensive player touches the object carrier, the defensive player gains possession of the object and must pass it to a teammate, while remaining in a stationary position.

   Players on the opposing team must stand at least three feet away from the new offensive player with the object until it has been passed, at which time they may attempt an interception.

Note: Any one of the options mentioned for the previous rule on "Keeping Possessions" may also be used in conjunction with the above rule.

Section VI: Position of Players

Before Play Begins: 1. One of the following options must be selected regarding where players can position themselves before play begins:

- (i) all players with the exception of those directly involved in the game starting procedure (check Section VII) may position themselves anywhere within the playing area.
- (ii) all offensive players must position themselves in the other team's half of the playing area; all defensive players must position themselves in their own zones.
- (iii) all players must position themselves in their own zones.

Note: The option selected for this rule must relate to where players can go during play.

During Play: 1. One of the following options must be selected regarding where players can go during play:

(i) all players may go wherever they wish within the playing area.

(ii) all offensive players must stay in the other teams half of the playing area; all defensive players must stay in their own zone.

(iii) one, two, or three players must stay in their own zone, the others may go wherever they wish.

Note: Only the goalkeeper is permitted inside the goal crease.

Section VII: Starting Play

To Begin Game:

1. One of the following must be performed in order to begin a game:

(i) the object is either tossed or dropped between two players from opposing teams who are positioned near the mid-point of the playing area.

Note: If a ball is used it may also be bounced between the players.

(ii) the object is passed to a teammate by a player positioned in the centre of the playing area.

(iii) a player who is positioned out of bounds and near the middle portion of the playing area passes the object to a teammate.

(iv) a goalkeeper may pass the object to a teammate, provided he stands inside the goal crease.

Note: The teacher will decide which team will begin when option two, three or four is selected. Also, an opposing player can not touch the object until a pass has been completed.

After a Goal is Scored:

1. One of the rule options discussed in the first part of this section "To Begin Game", will be used immediately after a goal is scored. If option two, three, or four is chosen one of the following will result:

(i) the team that is scored upon will always begin play.

(ii) the right to begin play will alternate from one team to the other regardless of who scores.

After a Penalty Shot:

1. If a goal is scored as a result of a penalty shot, one of the rule options discussed in this section regarding, "After a Goal is Scored", must be used to begin play.

2. If no goal is scored on a penalty shot, one of the following must be selected:
   - (i) the team who took the penalty shot will always begin play.
   - (ii) the right to begin play will alternate from one team to the other regardless of who took the penalty shot.

Note: If penalties are charged to both teams simultaneously rule option one must be selected.

Ball Out of Bounds:

1. If the object goes out of bounds on an end where a goal is located one of the following must occur:
   - (i) a goalkeeper must always send the object back into play.
   - (ii) a goalkeeper will send the object back into play only when the opposing team is responsible for sending it out. When the defending team is responsible an opposing player will pass the object back to a teammate from the point where it went off.

2. If the object goes out of bounds on a sideline, a player from the team not responsible for losing the object may pass it back into play; the pass must be made from the point where the object went out.

Section VIII: Goalkeeping

1. Teams are not required to use goalkeepers. However, if one team uses a goalkeeper so must the other team.

When Goalkeepers are Not Used:

1. When goalkeepers are not permitted in a game, one of the following must be observed:
   - (i) one defending player is permitted inside the goal crease, and that player will not have any special privileges.
   - (ii) no player will be permitted inside the goal crease.

When Goal-keepers are Used:

1. When goalkeepers are permitted in a game one of the following must be observed:
   - (i) the goalkeeper must stay inside the goal crease and no other player may take his position unless he becomes injured.
   - (ii) the goalkeeper may come out and go back inside his crease at any time to defend the goal, however, no other player may go inside the goal crease.

Stopping the Object:

1. The goalkeeper must stop the object by using one or any combination of the following methods:
   - (i) blocking or catching the object with the hands or arms
   - (ii) blocking or catching the object with an implement
   - (iii) blocking the object with the feet or legs.

Note: As a safety precaution it will be necessary for the teacher to make a restriction on the height of the goals, or the height which the object can reach when it is sent towards a goal.

Sending the Object Back into Play:

1. The goalkeeper may use one or any combination of the methods mentioned in section five "Players Behaviour", when sending the object back into play.

Section IX: Penalties

1. A penalty will be awarded against a team for the following fouls or rule infractions:
   - (i) when a player illegally uses a body part to move or stop the object.
   - (ii) when a player illegally uses an implement to move or stop the object, for example; swinging or throwing the implement to knock down or move the object; or hitting another players implement in order to knock the object out of, or away from the implement.
   - (iii) when a player raises his stick above his waist.
   - (iv) when a player makes body contact with an opponent, for example; checking an opponent who has possession of the object.

(v) when a team does not make the required number of passes before sending the object towards the goal.
(vi) when a player takes too many steps while in possession of the object.
(vii) when a player has possession of the object for too many seconds.

Note: Penalty (v), (vi) and (vii) will depend on the rules selected from section five regarding "Keeping Possession".

Privilege for Team Not Penalized:

1. In the event of a penalty one of the following must be observed:
(i) a player from the team not penalized may make a free pass from the area where the foul was committed.
(ii) a player from the team not penalized will attempt to score a goal from a designated area (an 'X' marked on the floor in front of each goal).
(iii) the player responsible for the penalty will be sent off the playing area for 30 seconds.

Note: The teacher should encourage the use of option one most of the time, reserving numbers two and three for more serious rule infractions.

Section X: Points Awarded for Goals

1. All goals scored during a game must be worth one of the following point values:
(i) one point
(ii) two points
(iii) three points
(iv) four points
(v) five points.

2. All goals scored as a result of penalty shots during a game must also be worth one of the point values indicated by the alternatives above.

Note: The points awarded for goals scored during play and those scored from a penalty shot do not have to be the same.

3. Instead of the team who scores a goal being awarded the points, the opposing team will receive points when a goal is scored against them.

Note: The above rule simply means that the team with the least points will be the winner.

RULE GUIDELINES:

MODIFIED COURT GAME STRUCTURE

General Description

This game structure consists of one or more players involved in striking or throwing an object into a playing area from where it is impossible for opposing players to return.

Rules

Section I: Area of Play

Types of Courts:

1. The playing area may be a divided court which consists of two equal spaces.
2. The playing area may be a shared court where the playing space is shared between the members of two teams.

Boundaries:

1. The playing area may form one of the following:
   - (i) a square
   - (ii) a rectangle
   - (iii) a triangle
   - (iv) a circle.

Note: There must be ample room for all groups to participate in a court game activity, and the size of the courts may vary depending on the number of players per team or the skills used.

Service Area:

1. There must be a specific area designated as the area for service. This area may be one of the following:
   - (i) an extension of the area of play, and only be used for the service.
   - (ii) a portion of the space inside the playing area, which during play (excluding the service) will be considered the same as any other part of the court.

Area for Receiving Serve:

1. The opposition's service area my be used as the required area for receiving a serve in either a divided or shared court game.

Note: The above rule does not have to be used in a game, however, when it is used the receiving area (service area) must be inside the court.

2. When an extension of the playing area is used as the service area, the object must be permitted to enter any portion of the opposition's court.

Note: Both the service and receiving area should be large enough and close enough to the opposition to allow the children a reasonable amount of success.

Rebounding Surface:

1. A rebounding surface may be used in both a shared and divided court for deflecting the object into the opposition's court.

   On a shared court the rebounding surface must be marked on a wall which is directly at right angles and above the court. This area must be as wide as the shared court and may include:

   (i) all of the surface space from the floor up to the ceiling.
   (ii) a portion of the surface space, beginning a reasonable distance from the floor, for example; two feet, and extend to the ceiling.
   (iii) a portion of the surface space beginning at floor level and extending a distance of at least 10 feet.

2. On a divided court, the rebounding surface area may form one of the following:

   (i) a rectangle
   (ii) a square
   (iii) a circle.

   This rebounding surface must have half of its surface area extending above each half of the court, for example; the rebounding surface may be a rectangle with its lowest side 5 feet from the floor and measure 10 feet long by 5 feet wide.

Note: If bouncing an object off a rebounding surface is selected as part of the serving procedure; the service area should be reasonably close to the rebounding plane.

Section II: Equipment

Objects: 1. One of the following must be used as the playing object:

- (i) a round ball between 2 and 6 inches in diameter
- (ii) a beanbag
- (iii) a quoit (consisting of either rubber or felt).

Implements: 1. One of the following implements may be used by each player:

- (i) a wooden paddle of reasonable size and weight
- (ii) a plastic scoop.

Partitions: 1. For a divided court one of the following must be used to separate the two halves of the playing area:

- (i) a rope stretched between two posts
- (ii) a net stretched between two posts
- (iii) one or two benches
- (iv) lines drawn on the floor.

Section III: Number of Players

1. Each team is limited to one of the following numbers of players:

- (i) one
- (ii) two
- (iii) three
- (iv) four.

Note: The above rule must be kept at all times to ensure that players participate in all changes made to their specific game.

2. Each team must have an equal number of players actively involved in a game.

Note: In a shared court game a team should not have any more than two players. For the purpose of this guideline, the general term "team" will refer to one player or a group of players who are competing against an opposition.

Section IV: Time Period

Length of a Game: 1. A game will not last for any specific time period.

2. A game will continue until one team has accumulated one of the following points values:

   (i) 7 points
   (ii) 9 points
   (iii) 11 points
   (iv) 13 points.

Winning Game by Two Points:

1. A team may be required to win a game by two points rather than one. If a two point difference is required, the first team to reach the agreed upon final score will have the next serve.

   One of the following options must be selected regarding the service procedure that will come after the initial serve:

   (i) the team that gained the right to serve first, will continue serving until one of the teams has won. If each team has more than one player, the right to serve will switch from one player to the next on the same team; the order of service for the players will be identical to that used previously during the game (see Section VII "Player Rotation").

   (ii) the right to serve will rotate to the other team after a player has one turn. The order of service for the players on a team will be identical to that used previously during the games (see Section VII "Player Rotation").

Changing Ends:

1. To decide on an overall winner teams may play a best two out of three series of games. When this occurs on a divided court teams may do one of the following:

   (i) play all games on their half of the court
   (ii) change ends after the completion of each game.

Section V: Movement of Object

Object's Behaviour:

1. During a rally the object must move in one or any combination of the following ways:

   (i) bounce on the floor
   (ii) maintain its motion in the air
   (iii) deflect off a rebounding surface.

2. During a service the object must move in one or any combination of the options mentioned in rule one above.

Player's Behaviour:

1. When implements are not required the object may be set into motion by using either one or two hands. When implements are used, they may be held with either one or two hands.

2. When the players are using their hands or implements one of the following actions must be used:

   (i) a striking action
   (ii) a throwing action, for example; sending the object from a scoop.

Note: When the partition dividing the court is low during a divided court game, players should not use a smash to move the object into their opponents playing area.

Keeping Possession:

1. When throwing or catching an object is used in the game:

   (i) a player is only permitted to take one step while in possession of the object before it must be released.
   (ii) after catching the object, a player is not permitted to delay the game, therefore, the object must be immediately released.

Player's Relationship With Teammates:

1. When a team is made up of more than one player, one of the following may occur:

   (i) the object must be returned to the opposition immediately after being received by a player.
   (ii) the object must be passed to a teammate before it is returned to the opposition.
   (iii) the object may be returned immediately or passed to a teammate before being returned, depending on the game situation.

2. If passing to teammates is permitted, a team is limited to a maximum of one of the following numbers of passes:

   (i) one pass
   (ii) two passes.

3. If passing to teammates is permitted a player may be limited to one of the following:

(i) receiving only one pass
(ii) receiving two passes.

Team's Relationship with Opposition on Divided Court:

1. On a divided court one of the following must be performed in order to move the object into the opposition's court:
   - (i) a player sends the object into the air so that it will enter the other team's court. The object must either:
     - (a) pass directly over the partition dividing the playing area, or,
     - (b) rebound into the other team's court from a rebounding surface located above the court.
   - (ii) a player bounces the object over the partition (using one bounce on his side) so that it will land in the other team's court.

2. On a divided court the object may move in one of the following ways before it must be received by the opposition:
   - (i) remain in the air after being projected
   - (ii) bounce once or remain in the air after being projected.

Team's Relationship with Opposition on Shared Court:

1. On a shared court one of the following must be performed in order to move the object to the opposition:
   - (i) a player sends the object against a rebounding surface which is located on a wall at one end of the court. During the objects flight to the rebounding surface it must not bounce on the floor.
   - (ii) a player sends the object so that it bounces once on the floor before deflecting off the rebounding surface.
   - (iii) when a rebounding surface is not used, a player must send the object into the air so that it stays within the boundaries of the court.

2. On a shared court the object may move in one of the following ways before it must be received by the opposition:
   - (i) remain in the air after being projected
   - (ii) bounce once or remain in the air after being projected.

Section VI: Position of Players

Before Play Begins:

1. On a shared court the players must position themselves in one of the following ways before a serve is made:

    (i) when a game involves a one against one situation, one player must occupy the service area and his opponent may occupy any portion of the court. However, the player waiting to receive the serve must not interfere with the server.

    (ii) when a game involves a two against two situation, one player must occupy the service area and his teammate must stand on one of the sidelines. The two opposing players may occupy any portion of the court. However, they must not interfere with the server.

2. On a divided court the players must position themselves in one of the following ways before a serve is made:

    (i) when a game involves a one against one situation, the server must occupy the service area in his court and the server's opponent must occupy either:
    (a) the service receiving area, or
    (b) any portion of his court.

    (ii) when a game involves a two against two or a four against four situation, half the players on each team may occupy the front portion of their court; the other half may occupy the back court. One player (the server) must stand in the service area.

    (iii) when a game involves a three against three situation, two players may occupy the front portion of their court and the other player may occupy the back court; the server must stand in the service area.

    (iv) the player position's may be the opposite of option three; one player may occupy the front portion of his team's court, and the other two may stand in the back court; the server must stand in the service area.

    (v) when a game involves more than one player per team; players may occupy any position they choose with the exception of the server, who must stand in the service area.

During Play:

1. In a divided court game, all players may go wherever they wish inside their own court in order to play the object.

2. In a shared court game, players may go wherever they wish provided they don't interfere with the opposing player attempting to play the object.

Section VII: Service

1. Play must always begin with a serve, and the serve must be made from a designated service area.

Note: See Section I "Service Area: for more details regarding the boundaries of the service area.

Performing the Serve:

1. To perform a serve, one of the options discussed in rule one or two regarding "Player's Behaviour", Section V, must be selected.

2. When a paddle is used, the object may do one of the following:
   (i) be bounced once on the floor before being struck
   (ii) be tossed into the air before being struck.

Note: Rule two regarding "Object's Behaviour", Section V, refers directly to how the object can move during the serve.

Placement of Object During Serve:

1. During the service, the server must attempt to send the object into one of the following:
   (i) anywhere in the opposition's court
   (ii) the opposition's service receiving area.

2. On a divided court the serve must be sent to one of the following when specific service and service receiving areas are used:
   (i) always serve to the same area
   (ii) serve first from the right service area to the service receiving area diagonally opposite; and then perform the next consecutive serve from the left service area to that service receiving area diagonally opposite.

Note: The players on the receiving team should take turns receiving the serves.

Net Serve on a Divided Court:

1. One of the following options must be selected regarding what must occur when a player attempts a serve and the object hits the net and not the floor before entering the other team's proper playing area:

   (i) the serve will not count and it can be taken over again
   (ii) the serve will be considered legal.

Service Rotation:

1. One of the following must apply when a game involves two players competing against each other:

   (i) the service will rotate from one opponent to the other whenever a serve is lost.
   (ii) the service will rotate after the server attempts two serves in succession regardless of his success on the first serve.
   (iii) the service will rotate after the server attempts three serves in succession, regardless of his success on the preceding serves.
   (iv) an entire game will be played with the same server. During the next game the other player will serve.

2. One of the following must apply when a game involves two teams with more than one player per team:

   (i) immediately after a server loses his serve the service will rotate to the other team.
   (ii) immediately after a server has attempted two serves, regardless of whether they are won or lost, the service will rotate to the other team.
   (iii) immediately after a server has attempted three serves, regardless of whether they are won or lost, the service will rotate to the other team.

Player Rotation:

1. When both teams have more than one player and they are on a divided court, one of the following must occur with regard to player rotation:

   (i) when players are specifically positioned in the back and front portions of their court, they will rotate in a clockwise fashion with one individual becoming the server.

(ii) when the players can occupy any position each player will be assigned a number and one player will move into the service area when it is his turn to serve.

Note: If there are three players on a team each player will be assigned a number from one to three. Player number three will become the server after the number two player has had his turn and his team has the right to serve.

2. On a shared court, since there will only be a maximum of two players per team, the players will simply take turns having the right to serve.

Section VIII: Scoring Points

1. One of the following options must be selected regarding the scoring of points:
   (i) only the serving team will score points when the opposing team wins a rally they gain the right to serve.
   (ii) either team may score on a serve or resulting rally.

2. A team may be awarded a point when one of the following occur:
   (i) when the opposing team sends the object out of bounds.
   (ii) when a player on the opposing team incorrectly serves or rallies the object.
   (iii) when the opposing team makes too many passes before sending the object to their opponents.
   (iv) when a player is hit or strikes the object before it can be played by the other team.
   (v) when a player obstructs the movement of an opposing player towards the object.

Note: The teacher is advised to check the other section of this guideline for more specific details concerning boundaries, service and rallying procedure.

APPENDIX E

GENERAL INFORMATION QUESTIONNAIRES

Chilren's Attitudes Toward the Playing of Games and Rule Changes

General Information Waverley Elementary School

Your Identification Number: ....

Boy ☐ Girl ☐

Age: .... Birth Date: ....

Please answer all questions: put a check mark in the square next to the correct answer.

Example: Have you ever owned a dog?

Yes ☑ No ☐

If you answered "Yes" in the above question, please indicate the colour of the dog.

White ☐ Black ☑ Brown ☐

1.(a) Have you ever played games in any organized sports leagues or clubs outside of school?

Yes ☐ No ☐

(b) If you answered "Yes" in the above question, please indicate which games you have played?

Ice Hockey	☐	Baseball	☐
Soccer	☐	Flag Football	☐
Basketball	☐	Volleyball	☐
Field Hockey	☐	Other	☐

(c) If you checked "other" in 1(b) above, please indicate which game or games you have also played.

....

2.(a) Have you ever participated in any games activities in your school's intramural program?

Yes ☐ No ☐

(b) If you answered "Yes" in the above question, please indicate which games you have played?

Soccer	☐	Broomball	☐
Baseball	☐	Shinny	☐
Badminton	☐	Floor Hockey	☐
Volleyball	☐	Flag Football	☐

Children's Attitudes Toward the Playing of Games and Rule Changes

General Information Greenfield Elementary School

Your Identification Number: ....

Boy ☐ Girl ☐

Age: .... Birth Date: ....

Please answer all questions: put a check mark in the square next to correct answer.

Example: Have you ever owned a dog?

Yes ☑ No ☐

If you answered "Yes" in the above question, please indicate the colour of the dog.

White ☐ Black ☑ Brown ☐

1.(a) Have you every played games in any organized sports leagues or clubs outside of school?

Yes ☐ No ☐

(b) If you answered "Yes" in the above question, please indicate which games you have played.

Ice Hockey ☐
Soccer ☐
Basketball ☐
Field Hockey ☐
Baseball ☐
Flag Football ☐
Volleyball ☐
Other ☐

(c) If you checked "other in 1(b) above, please indicate which game or games you have also played.

....

2.(a) Have you every participated in any games activities in your school's intramural program?

Yes ☐ No ☐

(b) If you answered "Yes" in the above question, please indicate which games you have played.

Soccer ☐
Baseball ☐
Badminton ☐
Volleyball ☐
Broomball ☐
Ice Hockey ☐
Floor Hockey ☐
Waste Paper Ball ☐

APPENDIX F

PRE AND POSTTREATMENT RAW DATA AND ADDITIONAL DATA PERTAINING TO THE CHILDREN'S PREVIOUS GAMES PLAYING EXPERIENCE

CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES: PRETREATMENT INVENTORY RESPONSES

Statement		Control Class								Experimental Class #1								Experimental Class #2							
		SA		A		D		SD		SA		A		D		SD		SA		A		D		SD	
	N	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
1	N	1	2	11	10	0	1	0	0	3	2	13	11	0	1	0	0	7	2	3	12	0	0	0	0
2	N	1	2	8	6	3	3	0	2	1	3	13	11	2	0	0	0	2	6	8	8	0	0	0	0
3	N	0	0	0	0	9	2	3	11	0	0	0	0	12	11	4	3	0	0	1	0	6	10	3	4
4	N	2	3	7	3	3	5	0	2	4	3	10	10	2	1	0	0	0	0	9	11	0	3	1	0
5	N	0	2	11	10	1	1	0	0	2	0	9	12	4	2	1	0	0	3	10	11	0	0	0	0
6	N	2	1	5	5	3	4	2	3	0	0	4	3	10	11	2	0	0	1	0	0	10	10	0	3
7	N	1	2	5	1	6	7	0	3	1	0	4	3	8	10	3	1	0	0	5	2	3	10	2	2
8	N	6	2	5	7	1	2	0	2	2	1	13	12	1	1	0	0	3	6	7	8	0	0	0	0
9	N	0	1	0	0	7	4	5	8	0	0	0	0	5	5	11	9	0	0	1	0	2	8	7	6
10	N	4	6	6	5	2	0	0	2	11	10	5	4	0	0	0	0	6	11	3	3	1	0	0	0
11	N	2	3	8	8	2	2	0	0	1	0	8	5	7	9	0	0	2	0	2	5	4	8	2	1
12	N	3	4	8	5	1	2	0	2	4	2	12	12	0	0	0	0	2	5	8	9	0	0	0	0

No. of boys in control class = 12
No. of girls in control class = 13

No. of boys in experimental class #1 = 16
No. of girls in experimental class #1 = 14

No. of boys in experimental class #2 = 10
No. of girls in experimental class #2 = 14

Key:
N = Number of Responses
D = Disagree
G = Girls
SA = Strongly Agree
SD = Strongly Disagree
A = Agree
B = Boys

CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES: POSTTREATMENT INVENTORY RESPONSES

Statement		Control Class								Experimental Class #1								Experimental Class #2							
		SA		A		D		SD		SA		A		D		SD		SA		A		D		SD	
	N	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
15	N	4	1	8	11	0	0	0	1	9	3	5	10	2	1	0	0	7	4	3	8	0	2	0	0
10	N	0	1	8	11	4	1	0	0	4	6	12	8	0	0	0	0	4	8	6	5	0	0	0	1
17	N	0	1	1	0	9	6	2	6	0	0	2	0	7	9	7	5	00	0	0	0	5	5	5	9
16	N	3	0	3	7	6	5	0	1	5	4	9	7	1	3	1	0	2	1	7	10	1	3	0	0
18	N	2	1	9	12	1	0	0	0	2	2	12	11	2	1	0	0	1	4	8	9	1	1	0	0
8	N	3	2	5	1	2	8	2	2	0	1	6	3	10	9	0	1	0	0	1	2	4	7	5	5
12	N	1	0	4	1	5	9	2	3	2	0	1	0	12	12	1	2	0	1	5	3	3	7	2	3
30	N	2	3	9	8	0	1	1	1	5	4	11	9	0	1	0	0	4	4	5	8	1	2	0	0
21	N	1	0	0	0	4	2	7	11	0	0	0	0	6	3	10	11	0	0	1	0	2	2	7	12
25	N	6	6	6	7	0	0	0	0	11	11	4	3	0	0	1	0	7	10	3	4	0	0	0	0
9	N	1	0	9	8	2	4	0	1	4	3	8	9	4	2	0	0	2	1	5	10	2	2	1	1
23	N	1	4	11	9	0	0	0	0	6	3	10	11	0	0	0	0	3	3	7	11	0	0	0	0

No. of boys in control class = 12
No. of girls in control class = 13

No. of boys in experimental class #1 = 16
No. of girls in experimental class #1 = 14

No. of boys in experimental class #2 = 10
No. of girls in experimental class #2 = 14

Key:
N = Number of Responses
D = Disagree
G = Girls
SA = Strongly Agree
SD = Strongly Disagree
A = Agree
B = Boys

Note: The statements in this table are not presented in proper numerical order, however, they do appear in the same chronological order as the statements in the previous table concerning children's attitudes toward the playing of games.

CHILDREN'S ATTITUDES TOWARD THE CHANGING OF GAMES RULES: POSTTREATMENT INVENTORY RESPONSES

Statement		Experimental Class #2								Experimental Class #1							
		SA		A		D		SD		SA		A		D		SD	
	N	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
1	N	2	2	9	20	1	3	0	1	0	0	13	10	3	4	0	0
2	N	1	1	4	13	4	1	2	0	3	5	8	4	4	5	1	0
3	N	0	0	1	0	5	13	5	2	0	0	0	1	13	10	3	3
4	N	3	5	7	9	1	1	0	0	3	1	12	12	0	0	1	1
5	N	1	1	0	2	7	7	3	5	0	1	5	3	9	9	2	1
6	N	0	1	7	3	4	11	0	0	0	1	5	4	8	9	3	0
7	N	0	0	6	3	4	7	1	5	0	0	6	2	10	12	0	0
11	N	2	3	8	11	1	1	0	0	4	2	12	12	0	0	0	0
13	N	0	0	7	9	3	5	1	1	1	1	9	5	5	8	1	0
14	N	0	0	1	6	6	5	4	4	0	0	5	4	7	10	4	0
19	N	2	6	7	7	1	2	1	0	2	0	12	13	2	1	0	0
20	N	0	0	1	1	7	11	3	3	0	0	0	1	13	12	3	1
22	N	0	0	3	7	8	6	0	2	2	0	6	6	6	8	2	0
24	N	1	0	1	0	4	9	4	6	0	0	1	0	8	9	7	5
26	N	0	0	3	4	6	7	2	4	4	2	2	2	9	9	1	1
27	N	0	1	7	5	3	8	1	1	0	0	7	4	7	7	2	3
28	N	3	2	7	8	1	5	0	0	2	0	9	12	5	2	0	0
29	N	0	1	8	9	2	5	1	0	0	0	9	7	5	6	2	1
31	N	0	1	1	0	7	7	3	7	0	0	1	1	6	7	9	6
32	N	0	2	9	9	2	4	0	0	0	0	8	7	7	5	1	2

No. of boys in experimental class #1 = 16
No. of girls in experimental class #1 = 14

No. of boys in experimental class #2 = 11
No. of girls in experimental class #2 = 15

Key:
N = Number of Responses
A = Agree
SD = Strongly Disagree
G = Girls
SA = Strong Agree
D = Disagree
B = Boys

CHILDREN'S PARTICIPATION IN GAMES ACTIVITIES WITH ORGANIZED SPORTS LEAGUES OR CLUBS OUTSIDE OF SCHOOL

	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Exp. 1 (N=30)	13	81.3	12	85.7	25	83.3
Exp. 2 (N=26)	11	100.0	13	86.7	24	92.3
Cont. (N=25)	10	83.3	7	53.8	17	68.0
Total (N=81)	34	87.2	32	76.2	66	81.5

CHILDREN'S PARTICIPATION IN GAMES ACTIVITIES IN THEIR SCHOOL'S INTRAMURAL PROGRAM

	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Exp. 1 (N=30)	14	87.5	11	78.6	25	83.3
Exp. 2 (N=26)	8	72.7	9	60.0	17	65.4
Cont. (N=25)	12	100.0	13	100.0	25	100.0
Total (N=81)	34	87.2	33	78.6	67	82.7

GAMES PLAYED BY EXPERIMENTAL CLASS ONE IN ORGANIZED SPORTS LEAGUES OR CLUBS OUTSIDE OF SCHOOL

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Ice Hockey	9	56.3			9	30.0
Soccer	11	68.8	4	28.6	15	50.0
Basketball	4	25.0	3	21.4	7	23.3
Field Hockey	0	0	0	0	0	0
Baseball	8	50.0	9	64.3	17	56.7
Flag Football	5	31.3	2	14.3	7	23.3
Volleyball	3	18.8	3	21.4	6	20.0
Bowling	0	0	2	14.3	2	6.7
Badminton	0	0	2	14.3	2	6.7
Golf	2	12.5	3	21.4	5	16.7
Water Polo	3	18.8	1	7.1	4	13.3
Tennis	3	18.8	3	21.4	6	20.0
Tackle Football	1	6.3	0	0	1	3.3
Lacrosse	2	12.5	0	0	2	6.7
Broomball	1	6.3	0	0	1	3.3
Racketball	1	6.3	0	0	1	3.3

Number of boys in experimental class one = 16
Number of girls in experimental class one= 14

Total = 30

GAMES PLAYED BY EXPERIMENTAL CLASS ONE IN THEIR SCHOOL'S INTRAMURAL PROGRAM

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Soccer	10	62.5	5	35.7	15	50.0
Baseball	6	37.5	4	28.6	10	33.3
Badminton	3	18.8	1	7.1	4	13.3
Volleyball	2	12.5	2	14.3	4	13.3
Broomball	2	12.5	2	14.3	4	13.3
Ice Hockey	4	25.0	0	0	4	13.3
Floor Hockey	11	68.8	7	50.0	18	60.0
Waste Paper Ball	9	56.3	6	42.9	15	50.0

Number of boys in experimental class one = 16

Number of girls in experimental class one = 14

Total = 30

GAMES PLAYED BY EXPERIMENTAL CLASS TWO IN ORGANIZED SPORTS LEAGUES OR CLUBS OUTSIDE OF SCHOOL

GAMES	BOYS #	BOYS %	GIRLS #	GIRLS %	TOTAL #	TOTAL %
Ice Hockey	7	63.6	1	6.7	8	30.8
Soccer	9	81.8	9	60.0	18	69.2
Basketball	5	45.4	7	46.7	12	46.2
Field Hockey	0	0	1	6.7	1	3.8
Baseball	7	63.6	12	80.0	19	73.1
Flag Football	3	27.2	2	13.3	5	19.2
Volleyball	0	0	3	20.0	3	11.5
Lacrosse	3	27.2	0	0	3	11.5
Ringette	0	0	2	13.3	2	7.7

Number of boys in experimental class two = 11

Number of girls in experimental class two = 15

Total = 26

GAMES PLAYED BY EXPERIMENTAL CLASS TWO IN THEIR SCHOOL'S INTRAMURAL PROGRAM

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Soccer	4	36.4	2	13.3	6	23.1
Baseball	2	18.2	4	26.7	6	23.1
Badminton	1	9.1	2	13.3	3	11.5
Volleyball	2	18.2	2	13.3	4	15.4
Broomball	3	27.3	0	0	3	11.5
Ice Hockey	2	18.2	0	0	2	7.7
Floor Hockey	7	63.6	2	13.3	9	34.6
Waste Paper Ball	5	45.5	3	20.0	8	30.8

Number of boys in experimental class two = 11

Number of girls in experimental class two = 15

Total = 26

GAMES PLAYED BY CONTROL CLASS IN ORGANIZED SPORTS LEAGUES OR CLUBS OUTSIDE OF SCHOOL

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Ice Hockey	5	41.7	0	0	5	20.0
Soccer	6	50.0	0	0	6	24.0
Basketball	1	8.3	0	0	1	4.0
Field Hockey	0	0	0	0	0	0
Baseball	7	58.3	7	53.8	14	56.0
Flag Football	1	8.3	0	0	1	4.0
Volleyball	1	8.3	0	0	1	4.0
Bowling	2	16.7	2	15.3	4	16.0
Badminton	3	25.0	1	7.7	4	16.0
Golf	2	16.7	0	0	2	8.0

Number of boys in control class = 12

Number of girls in control class = 13

Total = 25

GAMES PLAYED BY CONTROL CLASS IN THEIR SCHOOL'S INTRAMURAL PROGRAM

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Soccer	12	100.0	11	84.6	23	92.0
Baseball	10	83.3	7	53.8	17	68.0
Badminton	1	8.3	0	0	1	4.0
Volleyball	1	8.3	0	0	1	4.0
Broomball	9	75.0	5	38.5	14	56.0
Shinny	7	58.3	6	46.2	13	52.0
Floor Hockey	6	50.0	7	53.8	13	52.0
Flag Football	7	58.3	4	30.8	11	44.0

Number of boys in control class = 12

Number of girls in control class = 13

Total = 25